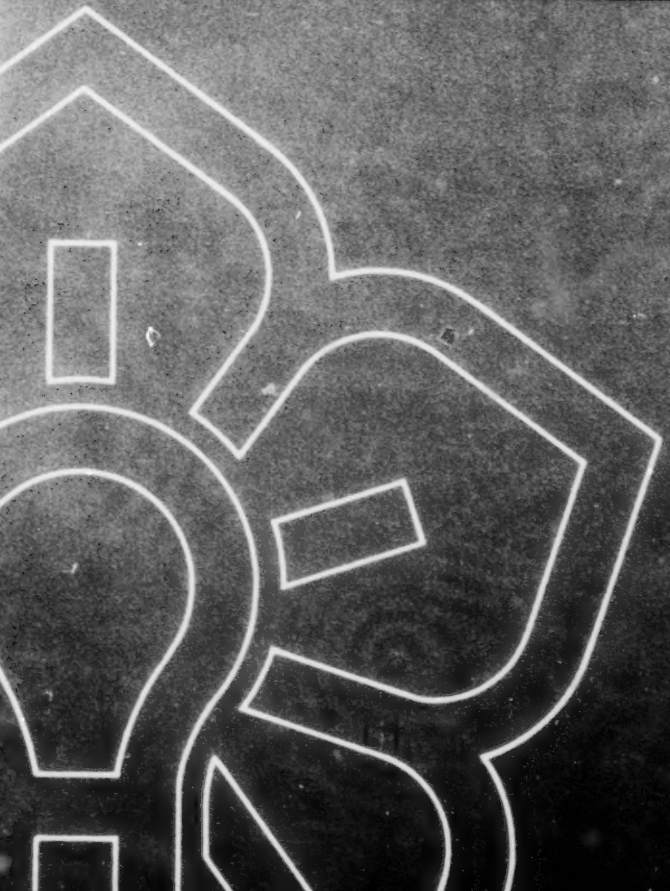
Science Council
of British Columbia

FOURTEENTH ANNUAL REPORT 1991-1992



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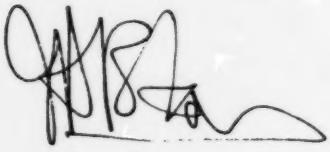
June 30, 1992

The Honourable Tom Perry
Minister of Advanced Education, Training and Technology
Province of British Columbia
Parliament Buildings
Victoria, B.C.
V8V 1X4

Dear Minister Perry;

I have the honour to present you the Fourteenth Annual Report of the Science Council of British Columbia for the year ending March 31, 1992.

Respectfully submitted,



J. Haig deB. Farris
Chairman,
Science Council of British Columbia

FROM THE CHAIRMAN

This is a decade of human and financial crisis, of dramatic economic and political change throughout the world. A major reason why there's a crisis in Canada is that our resource industries can no longer generate enough cash to enable governments to pay for the services we have come to expect. Instead of dealing with the crisis as it developed however, our governments became bogged down talking about other issues: frigates, constitutions, ice-breakers - - - even kaons. The lack of vision, leadership and action is appalling!

At the same time this decade affords unparalleled opportunity for those who have the right training and skills. All of us have to realize that economic prosperity in the 1990's will be based on human rather than physical resources. One has only to look at the sad spectacle of the former Soviet Union grovelling before the G-7 leaders to understand the scale of human tragedy and suffering that awaits those who fail to deal effectively with that fact.

The Science Council can play a leading role in convincing the provincial government to reshape its financial priorities so that precedence is given to our technological and scientific infrastructure, as well as our human resources. I believe that Science Council members, staff and volunteers have the talent, motivation and energy to prompt such a re-ordering of political priorities. If not, we should be booted out.

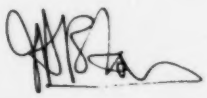
First of all we have to convince the government to allocate 2% of its budget to science and technology objectives and the development of human resources. This would amount to $340 million out of a provincial budget of $17 billion, compared to the present $35 million allocated for this purpose. Second, we must work with the provincial government to convince Ottawa to change immigration laws to enable us to recruit more easily the human talent needed for a knowledge-based economy and to ensure that our tax system is structured so that we can attract long-term risk capital.

Ron Woodward has been appointed president of the Science Council effective August 17, 1992. His background in government and his proven ability to get things done will be a great asset to us.

Meanwhile on behalf of my colleagues on the Council, I'd like to thank Tom Calvert, our president for the past two years. Tom's talent, dedication and integrity have served the Council well. We wish him success in his future research and commercial ventures.

To our staff and volunteers I can say only that we are dependant on your continuing efforts and ideas. British Columbia is well-served by your unselfish dedication to the development of our knowledge-based economy.

Finally, I want to thank my fellow members of the Science Council of British Columbia for the endless hours of volunteer service you give. The spirit of cooperation and the friendship we share are payment enough for our efforts.



J. Haig deB. Farris
Chairman
Science Council of B.C.

The Science Council of British Columbia is dedicated to promoting economic development and enhancing the quality of life in British Columbia through innovative applications of science and technology.

MEMBERS OF THE SCIENCE COUNCIL OF BRITISH COLUMBIA

CHAIRMAN PRESIDENT

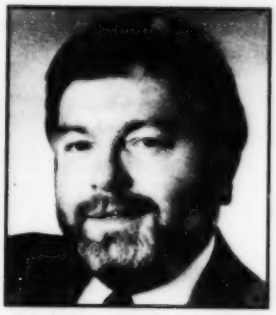
Mr. J. Haig deB. Farris

Dr. Tom W. Calvert

Dr. Christopher R. Barnes

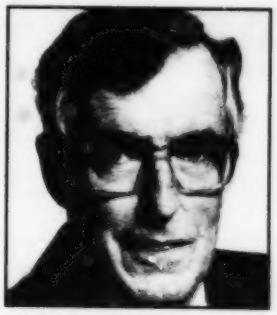
Dr. Otto L. Forgacs

Ms. Gail S. Gabel

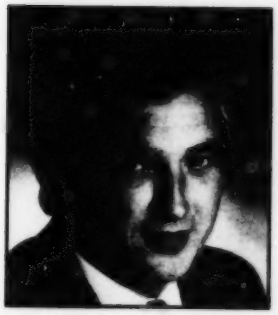


Dr. Brian W. J. Gillespie

Ms. Ellen R. Godfrey

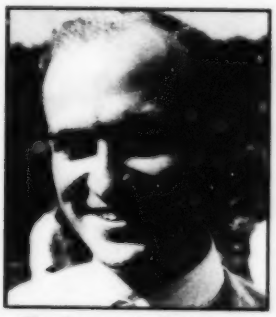


Mr. Ian F. Greenwood



Dr. Colin H.W. Jones

Dr. Julia G. Levy



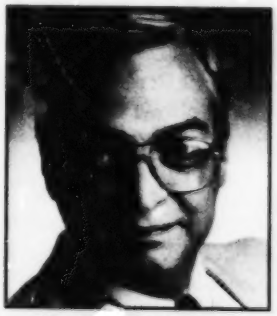
Dr. James A. McEwen

Mr. Keith V.S. Meyer

Dr. Robert C. Miller

Dr. L. Roy Queen

Dr. Ken A. Spencer



Dr. Brian W. Thair

MEMBERS OF THE SCIENCE COUNCIL OF BRITISH COLUMBIA

(Council members continue to serve until their terms are renewed or new members are appointed to replace them.)

Member	Date of First Appointment	Current Term Expires
Mr. J. Haig deB. Farris President Fractal Capital Corporation Vancouver	October 20, 1988 **(Chairman)**	October 1, 1991
Dr. Tom W. Calvert President Science Council of B.C. Burnaby	January 7, 1988	June 30, 1993
Dr. Christopher R. Barnes Director Center for Earth and Ocean Research University of Victoria Victoria	November 16, 1990	September 1, 1991
Dr. Otto L. Forgacs Senior Vice-President Research and Development MacMillan Bloedel Ltd. Vancouver	October 20, 1988	October 1, 1991
Ms. Gail S. Gabel Managing Director and C.E.O. Aanderaa Instruments Ltd. Victoria	January 7, 1988 **(Deputy Chairman)**	September 1, 1992
Dr. Brian W.J. Gillespie Vice-President, Education British Columbia Institute of Technology Burnaby	February 1, 1990	September 1, 1992
Ms. Ellen R. Godfrey President Softwords Research International Ltd./ Beach Holme Publishers Victoria	November 16, 1990	September 1, 1991
Mr. Ian F. Greenwood Interior Regional Manager British Columbia Research Corporation Kelowna	October 20, 1988	October 1, 1991

Members (continued)

Member	Date of First Appointment	Current Term Expires
Dr. Colin H.W. Jones Dean, Faculty of Science Simon Fraser University Burnaby	November 16, 1990	September 1, 1993
Dr. Julia G. Levy Senior Vice-President of Discovery Quadra Logic Technologies Inc. Vancouver	January 7, 1988	September 1, 1991
Dr. James A. McEwen President Andronic Devices Ltd. Richmond	September 18, 1986	September 1, 1991
Mr. Keith V.S. Meyer General Manager Cominco Metals Ltd. Vancouver	March 3, 1989	September 1, 1991
Dr. Robert C. Miller Vice-President, Research University of British Columbia Vancouver	February 1, 1990	September 1, 1992
Dr. L. Roy Queen Clinical Orthodontist Kamloops	February 1, 1990	September 1, 1992
Dr. Ken A. Spencer President CREO Products Inc. Burnaby	February 1, 1990	September 1, 1992
Dr. Brian W. Thair Biology Professor College of New Caledonia Prince George	November 16, 1990	September 1, 1993

STAFF OF THE SCIENCE COUNCIL OF BRITISH COLUMBIA

THE EXECUTIVE GROUP

The President leads the Council in its public activities and in dealings with senior government, academic, and industrial leaders. The Executive Assistant provides overall support to the President. The Policy Coordinator works with Council Committees and staff on policy-related matters, while the Administrative Secretary and Receptionist provide support to this group.

Left to right, front row: Laura Jo Gunter, Tom Calvert
Back row: Lynn Berry, Karin Nuyten, Lesley Lee

THE PROGRAMS GROUP

The Programs group administers the Council's research grant and human resource support awards programs.

Left to right, front row: Bernadette Mah, Terri Chanyungco, Max Cairns
Second row: Tina Rasmussen, Dawn Livera, Michelle Boyd
Third row: Darren Frew, Cindy Lee, Vince Lum,
Back row: Janel Tanner, Rick Warner

THE COMMUNICATIONS GROUP

The Communications staff promote Science Council programs and activities through brochures, news releases, annual reports, video productions, outreach trips, the SPARK Newsletter and Bright Ideas features. This group is also responsible for science awareness and recognition activities such as the BC Science and Engineering Awards.

Left to right: Jennifer Wolfe, Christie Harder, David Rodger

STAFF OF THE SCIENCE COUNCIL OF BRITISH COLUMBIA

Left to right, front row:
Darlene Telnes,
Deborah Smith
Back row:
Debra Seibold,
Linda Specht

THE FINANCE AND ADMINISTRATION GROUP

The Finance and Administration staff are responsible for monitoring all of the Science Council's financial statement accounts, budgets and cash management. They also handle the administration of accounts receivable and payable, staff compensation, general management of the office and human resources concerns.

Left to right, front:
Patricia Kwan,
Second row:
Debbie Aubertin,
Clare Kelly
Third row:
Aldyen Donnelly,
J.H. Hall Chamberlin,
Tom Turner
Fourth row:
Lucy Stephens,
David Roberts,
Frances Lasser
Back row:
Arnold Smith,
George Hunter,
Michael Boeur

THE SPARK GROUP

SPARK – Strategic Planning for Applied Research and Knowledge – is a network of several hundred top-level volunteers drawn from large and small industry, the universities, colleges, research institutes and government. Through various sector committee meetings, the SPARK staff bring together leaders to identify prospects and to recommend measures which will ensure these are realized.

SCIENCE COUNCIL OF BRITISH COLUMBIA STAFF

Dr. Tom Calvert	President
Ms. Debbie Aubertin	SPARK Secretary
Ms. Lynn Berry	Administration Secretary (from June 24, 1991)
Ms. Michelle Boyd	Awards Secretary (from April 29, 1991)
Dr. Max Cairns	Director of Programs
Ms. Terri Chanyungco	Awards Officer
Mr. Chris Crossfield	Awards Officer (to November 30, 1991)
Mr. Darren Frew	Awards Officer (from January 6, 1992)
Ms. Laura Jo Gunter	Policy Coordinator
Ms. Christie Harder	Communications Secretary (from May 1, 1991)
Ms. Clare Kelly	SPARK Administrative Assistant
Ms. Patricia Kwan	SPARK Secretary (from August 1, 1991)
Ms. Karin Nuyten	Receptionist
Ms. Cindy Lee	Programs Assistant
Ms. Lesley Lee	Executive Assistant
Ms. Dawn Livera	Awards Officer
Mr. Vincent Lum	Awards Officer
Ms. Bernadette Mah	Awards Officer (from July 15, 1991)
Ms. Tina Rasmussen	Awards Secretary
Mr. David Rodger	Director of Communications (from September 1, 1991)
Ms. Deb Seibold	Director of Finance and Administration
Ms. Deborah Smith	Administration Assistant (from April 12, 1991)
Ms. Linda Specht	Financial Assistant
Ms. Janel Tanner	Awards Secretary (from January 6, 1992)
Ms. Darlene Telnes	Financial & Administrative Assistant

Staff (continued)

Mr. Rick Warner	Awards Manager
Ms. Jennifer Wolfe	Communications Coordinator

SPARK CHAMPIONS AND CONSULTANTS TO THE SCIENCE COUNCIL OF BRITISH COLUMBIA

Mr. Michael Boeur	Marketing & Public Ever.ts Coordinator
Mr. J.H. Hall Chamberlin	SPARK Mining Champion (from June 1, 1991)
Ms. Aldyen Donnelly	SPARK Environmental Industries Champion (from October 1, 1991)
Mr. George Hunter	SPARK Biotechnology Champion (from June 1, 1991)
Ms. Frances Lasser	SPARK Health Industry Champion
Mr. David Roberts	SPARK Manufacturing Champion
Mr. Arnold Smith	SPARK Energy & Transportation Champion
Dr. John Spence	SPARK Oceans Sector Champion
Mr. Wolfgang Strigel	SPARK Information Technologies Champion
Mr. Alan Toon	SPARK Construction Champion
Mr. Tom Turner	Director of SPARK

THE YEAR IN REVIEW

People... places... policy... projects... plans... programs... publications...

A year in the life of the Science Council is a kaleidoscope of activities driven by the Council's mission: **to promote economic development and enhance the quality of life in British Columbia through innovative applications of science and technology**.

The year that began April 1, 1991 might not, at first glance, appear as dramatic as some of those that immediately preceded it. There were no big changes in key personnel, programs or location. Nor were any new Council members appointed. On the other hand, it was a year in which a number of initiatives begun in earlier years, came to fruition – particularly in SPARK. There were also some significant revisions and additions to the programs the Council operates.

PROGRAMS

Programs are what the Science Council of British Columbia is all about. From the multi-million dollar Technology BC grants program to the GREAT and STARS scholarships for graduate students, the programs are, together with SPARK, the tangible manifestation of the Science Council's mission.

TECHNOLOGY BC

Technology BC, administered on behalf of the Ministry of Advanced Education, Training and Technology by the Council, is intended to stimulate the development and application of science and technology for the economic benefit of the province.

In the first 1991-92 Technology BC competition, the results of which were announced in August, 88 projects received a total of some $5,767,035. In March, the second competition awarded $5,344,820 to 80 projects.

HUMAN RESOURCES PROGRAMS

The Science Council's scholarship, fellowship and job support programs have one overriding purpose: to train the scientists, engineers and technologists that our province must have, particularly in industry, in order to ensure its future economic and social development.

Narrowband Telecommunications Research Inc. of Burnaby has developed a portable satellite transceiver system with Technology BC support.

GREAT scholars must be conducting graduate research studies in science or engineering at a post-secondary institution in British Columbia. With their supervising professor they must establish a formal relationship with an off-campus company or agency. That is to enable the student to carry out a significant portion of his/her thesis research in that company or agency. The Science Council may award the qualifying student a $17,000 GREAT scholarship. If the student has other scholarships, the Council award will be $22,000 less the other scholarships to a maximum of $17,000.

Beth Power (right) of EVS Consultants in North Vancouver conducts ecological risk assessments with support from the GREAT program.

In 1991-92, 96 students at Simon Fraser University, the University of Victoria and the University of British Columbia received a total of $1,340,357. A list of GREAT scholars is published elsewhere in this report.

In order to encourage more scientists and engineers already in the workforce to return to compiete graduate degrees, the Science Council established the **Science and Technology Awards for Returning Students.** In 1991-92 these awards were worth $25,000. Future qualifying students will receive $36,000. The terms of the award are otherwise similar to those that apply to GREAT scholarships.

Mary Boulanger's STARS scholarship is enabling her to return to university to continue studies in environmental engineering.

In 1991-92 $100,000 in support from this program was awarded to four people.

Industrial Post-Doctoral Fellowships are the Science Council's way of encouraging more companies to hire men and women who recently received their Ph.D.s in science or engineering. They are worth $25,000 per year towards the salary paid to a qualifying individual. Many companies have used this program to establish a research and development activity built around that person.

Fifteen Industrial Post-Doctoral Fellowships were awarded in 1991-92.

An Industrial Post-Doctoral Fellowship helped Paul Hornby and JR Labs in Burnaby establish a first class research facility to test food for unwanted chemicals.

Several years ago the Council saw a need for a program similar to the Industrial Post-Doctoral Fellowships, one targeted towards people who had recently received college or institute diplomas or Bachelor's and Master's degrees in science, engineering or technology. So, with support from the Ministry of Advanced Education, Training and Technology, it established the **Training Employment in Science and Technology** program. The program provides funds to private sector employers who hire recent graduates of post-secondary programs in science, engineering and technology. They will be paid up to $1,500 per month for a maximum of twelve months for each qualifying individual hired in a position appropriate to their post-secondary training. It must be that individual's first job in their area of study since graduation.

With Science Council's Training Employment program Pat Hickerson is gaining valuable work experience with Gentech Engineering in Salmon Arm.

In 1991-92, 21 men and women were supported through the Training Employment in Science and Technology program. The total value of that support was $179,595.

MARKET ASSESSMENT OF RESEARCH AND TECHNOLOGY

This relatively new program is proving to be one of the Science Council's most popular programs. It is designed to help researchers in British Columbia companies, research and technical institutes, colleges and universities determine the market potential of their scientific discoveries and technical innovations. The program provides grants of up to $20,000 to help in the hiring of the expert services needed to conduct a market assessment to help guide the commercialization of new technology-based products.

In the 1991-92 fiscal year, 41 grants were awarded worth a total of $755,773.

HEALTH DEVELOPMENT FUND

This program is operated jointly by the Science Council and the BC Health Research Foundation. Through the Fund, grants are provided for the kind of research and development in the health sector that promise economic benefits for the province and/or health care benefits based on the development and application of new health technology.

In 1991-92, 23 grants from the Health Development Fund were awarded, worth a total of $1,265,824.

RECYCLING RESEARCH DEMONSTRATION AND DEVELOPMENT FUND

More than two million used tires are disposed of each year in B.C. The government now applies a three dollar surcharge to the purchase price of every new tire sold in B.C., the proceeds from which go into the Sustainable Environment Fund. To encourage people to propose innovative ways of dealing with used tires, B.C. Environment has contracted the Science Council to administer the research and development component of its comprehensive, province-wide scrap tire collection and recycling program.

In 1991-92, the first competition for funds was held. $740,000 was shared among seven projects.

PROGRAM INFORMATION

The Science Council has brochures on each of its programs. There are also brochures showing some of the people and projects supported by them. This year the Programs Department prepared a new loose-leaf binder providing pertinent details on each program individually, the amount of money available and the application deadlines where they exist. Copies are available on request.

In another activity aimed at increasing awareness of and access to Science Council programs, Programs Department staff travel throughout the province holding workshops for interested individuals and organizations. The Vancouver Island Advanced Technology Centre represents the Council in that part of the province, providing information and assistance to potential applicants on Southern Vancouver Island. A toll-free number (1-800-665-SCBC) means that anyone in British Columbia can call the Science Council free of charge during office hours to request information or talk to a staff member.

REDUCED ACRONYMS

Regular readers of Science Council publications will note less use of acronyms to identify programs in this year's annual report. The Council adopted SCRAP (Science Council Reduction of Acronyms Project) in November, 1991 in an effort to avoid a confusing "alphabet soup" of catchy but inherently meaningless acronyms. Only GREAT and SPARK were felt to be so widely known by their acronyms that they should be retained.

REGIONAL INITIATIVES

Each year, the Science Council travels to

centres outside Greater Vancouver. In the communities they visit, members and staff learn of the particular needs and interests of the people, agencies and companies in those communities. Of course, it provides the Council with the chance to spread the word about its programs to ensure that access to them is as widespread as the province itself.

In June, 1991, the Council visited the West Kootenays, touring companies in Trail, Nelson and Castlegar and meeting with industry, education and political leaders. In September, the destination was Prince George where, among other activities, they met Dr. Geoffrey Weller, the president of the new University of Northern British Columbia.

Science Council outreach group visits Kootenay Manufacturing in Nelson, producer of powerful log skidders. Left to right: Ray Bagnall (KM), Leslie Lee, Ian Greenwood, David Roberts and Alan Toon.

There were two joint meetings with the Premier's Advisory Council on Science and Technology. In November, the two groups traveled to Seattle, Washington to get a first hand look at the primary economic engines such as Boeing, Microsoft and the University of Washington that drive this neighboring metropolitan area. In February, they met in Victoria, where the highlight was an exchange of ideas and information with the new Minister of Advanced Education, Training and Technology, Dr. Tom Perry.

As the year came to a close, the Ministry transferred responsibility to the Science Council for developing regional councils on science, technology and innovation. Two such councils now exist; one in the Peace River region and the other based in Prince George to serve the northern interior.

BC SCIENCE AND ENGINEERING AWARDS

Over 420 people attended the 1991 BC Science and Engineering Awards Dinner at the Hotel Vancouver on October 22nd. Guests met and cheered the students from throughout the province who competed in the Canada Wide Science Fair in May. They marked the 75th anniversary of Canada's National Research Council when Science Council Chairman Haig Farris presented NRC president Dr. Pierre Perron with a commemorative plaque. The evening ended with pertinent remarks from guest speaker Dr. Janet Halliwell, who chairs the Science Council of Canada.

But the highlight of the evening was the presentation of gold medals and trophies to the winners of the 1991 British Columbia Science and Engineering Awards.

The winners of gold medals were:

Dr. Martha Salcudean, Head of the Department of Mechanical Engineering at the University of British Columbia. She is a world leader in creating computer simulations of fluid flow. This is a field that has crucial implications for equipment and system design in applications as diverse as the shape of turbine blades and the operation of pulp and paper recovery boilers.

Dr. Pieter Cullis, a biochemist in the Faculty of Medicine at the University of British Columbia. His research programs have been directed towards understanding the physical properties and functional roles of fatty cells called lipids in cell membranes. A major result of this line of research has been the development of techniques

Dr. Martha Salcudean, Head of UBC Mechanical Engineering, won the Gold Medal for Engineering and Applied Sciences.

for using liposomes, which are small spheres of lipids, to deliver anti-cancer drugs to disease sites.

Dr. Pieter Cullis (right) of UBC's Faculty of Medicine won the Gold Medal for Health Sciences.

The Science Council Chairman's Award for Career Achievement was presented to **Dr. Robert Stewart** of Victoria. Dr. Stewart has made major contributions to scientific knowledge, particularly in oceanography, meteorology and insights into climate change. He helped to establish the Institute of Ocean Sciences at Patricia Bay near Sidney and served as its first Director-General. As Deputy Minister of Universities, Science and Communications in the B.C. government in the early 1980's, he helped guide the Science Council of British Columbia in its formative years, and was, and continues to be, a formidable champion of a diversified, knowledge-based economy for the province.

Dr. Robert Stewart of Victoria won the Chairman's Award for Career Achievement

Dr. Karl Brackhaus was acclaimed the 1991 winner of the Cecil Green Award for Entrepreneurial Science. The Award is named for Cecil Green who as a young man lived in Vancouver but then moved to the United States where he helped establish Texas Instruments. Dr. Brackhaus' company Dynapro Systems is an excellent example of the kind of firm that Canada needs as it moves into the knowledge-based economy. Under his direction it has become a leader in the manufacturing of intelligent computer terminals, software and industrial communications equipment.

Dr. Karl Brackhaus, President of Dynapro Systems on Annacis Island won the Cecil Green Award for Entrepreneurial Science.

The Science Council named its recently-created award for communicating science after Eve Savory, the B.C.-born science journalist for CBC Television's The National. Ms. Savory was on hand to present the 1991 Eve Savory Award for Science Communication to **Dr. Douglas Hayward**. Since his official retirement from the UBC chemistry department, Dr. Hayward has spent thousands of hours visiting school class-

rooms throughout B.C. helping students to enjoy and understand the science of chemistry.

Dr. Doug Hayward, winner of the Eve Savory Award for Science Communication, is a master at turning kids onto chemistry.

TRANSITION AND RECOGNITION

At the annual Spring Thanks reception, held at Science World in May, fifty-one recently-retired members of the Science Council and its committees were recognized for their contributions.

By a curious set of circumstances, three Ministers of Advanced Education, Training and Technology attended. When the invitations were printed, the Honourable Bruce Strachan was Minister. He was replaced in a cabinet shuffle by the Honourable Stan Hagen. Then, on the day of Spring Thanks, a further change in the provincial cabinet turned the portfolio over to the Honourable Peter Dueck. Mr. Dueck made the presentations to the retirees, but all three ministers attended and spoke to the gathering.

SPARK

During fiscal 1992/93, SPARK will have completed five years of operation. SPARK has grown and changed quite dramatically during this period, and looks forward to the future with the revised mandate developed during the year - "To work with the business and research communities of the province to develop and champion the implementation of strategic plans that ensure the effective application of research and technology for the long - term economic development of British Columbia".

The year ending March 31, 1992, was a successful one for SPARK. A broad range of achievements were reported across most sectors of the SPARK network and are described in further detail throughout the body of this report.

The two major accomplishments of the year were the establishment of the Software Productivity Centre and the B.C. Biotechnology Alliance (Society). The Software Productivity Centre (SPC) was formally incorporated as a non-profit society on July 10, 1991, and received a commitment of interim fifteen month funding from the Ministry of Advanced Education, Training and Technology in January 1992. It is a stand - alone industry-oriented organization to assist software developers in British Columbia improve their productivity, quality, and efficiency and hence their competitiveness in the global industry. It represents the culmination of over two years of effort on the part of SPARK, the two SPC task forces, the SPC Board of Directors, and industry. Many people contributed to formulate the SPC concept and drive it forward.

The B.C. Biotechnology Alliance is a forum for producers and users of biotechnology to promote their common interests; with a mandate to promote the development of a viable biotechnology industry, and the use of biotechnology in the existing resource industries. It was officially founded on June 15, 1991. The concept of the Biotechnology Alliance developed from an intensive three year SPARK planning process in place since 1988. This process was initiated when biotechnology was identified as having the potential to be the second largest high technology component of the British Columbia economy.

New initiatives were also developed by SPARK over the past year in the areas of Oceans and Human Resources. The new SPARK Oceans

Committee of fifteen volunteers will direct a review of ocean - related activities on the West Coast as a first step in overall strategic planning for ocean industry science and technology in British Columbia. The SPARK Human Resources Working Group is SPARK's second cross sectoral initiative and will direct a review of human resource issue needs in British Columbia.

Finally, and perhaps most significantly, SPARK began its first formal evaluation in fiscal 1992. In November 1991, the Science Council of British Columbia commissioned the ARA Consulting Group Inc. to undertake a comprehensive evaluation of the SPARK initiative, and this evaluation was begun in earnest during the last year. Considerable effort was spent by members of an Evaluation Steering Committee and many members of the SPARK network to ensure that an effective evaluation was carried out. A draft report of the evaluation and its recommendations is expected early in the next fiscal year.

SPARK has prepared a sector-by-sector review of its activities in 1991-92, copies of which are available from the SPARK office.

MARKETING TASK FORCE

In February of 1991, a task force was commissioned to look at the marketing problems that many of BC's high-tech firms are experiencing. It organized an in-depth survey of business representatives and invited all relevant funding agencies to attend a public forum to discuss the marketing problems facing BC businesses.

Three major marketing problems were discovered. First, there seems to be an overall lack of awareness of how important marketing is. Second, there is a need for more marketing education, especially in the form of in-house training. And finally, there should be a single contact source to direct high-tech companies towards sources of funding and other types of assistance. The Science Council will continue work on this project and implement solutions in the upcoming year.

TO CONCLUDE

This draws to a close our Year in Review for 1991-92. Through our various targetted activities and programs we have made significant progress in our mission to help create a stronger, diversified economy and an enhanced quality of life in British Columbia.

We're anticipating another eventful and stimulating year ahead and hope that your interest and support will be maintained.

SCIENCE COUNCIL OF B.C. -

Schedule of Technology B.C. Commitments for the year ended March 31, 1992

1. RESEARCH GRANT COMPETITION (T-1)

GRANT RECIPIENT & ORGANIZATION	PROJECT DESCRIPTION	TOTAL $ COMMITTED 1991-92
A. AGRICULTURE AND FOOD		
Dr. W.G. Bailey SFU, Geography	Development of Procedures and Criterion for Quality Ginseng Drying	20,000
Dr. J.F. Chang Phero Tech Inc. Delta	Commercialization of Sticky Colour Traps for Pest Management and Trapping Enhancement with Host Semiochemicals	30,450
Dr. J.A. Matteoni Westgro Sales Inc. Delta	Bumblebee Pollination of Greenhouse Vegetables	50,000
Dr. Z.K. Punja SFU, Biological Sciences	The Etiology and Control of Cavity Spot on Fresh Market Carrots in the Fraser Valley of B.C.	17,250
Mr. S.R. Smith Canadian Lysozyme Inc.	High Fructose Dairy Sweetener: Development and Scale Up to Pilot Process	30,000
B. AQUATIC RESOURCES		
Mr. J.R. Bray Pelagic Fisheries Longline Cooperative Richmond	Adaptation of On-Board Handling and Processing Procedures for Longline Captured Sharks	43,015
Mr. S.F. Cross Espinosa Mariculture Ltd. Sidney	Production Enhancements for the Culture of the Japanese Scallop, patinopecten yessoensis in British Columbia	32,846
Dr. D.J. Furnell Malaspina College Nanaimo	Mark-Recapture Inventory Methods for Salmon Farm Net Pens	15,261
Dr. D. Groves Sea Spring Salmon Farm Chemainus	Sex-Specific DNA Probes in Atlantic Salmon and Rainbow Trout for Use in Monosex Culture	69,560
Dr. E.B. Hartwick SFU, Biological Sciences	Development of Optimal Feeding Strategies for Scallops in Nursery Rearing System	9,940
Dr. D.D. Kitts UBC, Food Science	Serological Screening Assays for the Detection of PSP Contaminated Shellfish	80,504
Dr. F. Law SFU, Biological Sciences	A Physiologically-Based Pharmacokinetic Model of Oxytetracycline in Salmonids	53,197

1. RESEARCH GRANT COMPETITION (T-1) - *Continued*

Dr. P.H. Liao UBC, Bio-Resource Engineering	Composting of Mortalities for the B.C. Salmon Industry	56,962
Dr. B.A. McKeown SFU, Biological Sciences	Compensatory Growth in Chinook Salmon and its Application	48,480
Dr. S. Nakai UBC, Food Science	Production of Engineered Foods from Surimi by Extrusion Processing	59,800
Mr. D.G. Nikleva Below Sea Level Oyster Co. Squirrel Cove	Experimentation with Three Floating Nursery Systems to Cost-Effectively Produce Manila Clam (Tapes Philippinarum) Seed	28,550
Dr. A.C. Rodriguez B.C.I.T. Burnaby	Improvement of Double Dud Detector Operating Criteria by Mechanical Analysis	44,860

C. BIOTECHNOLOGY

Dr. C.P. Chanway UBC, Forest Sciences	Microbial Inoculation of Conifer Seedlings	73,566
Dr. J. Levy Quadra Logic Technologies Inc. Vancouver	Influence of Porphyrins and Metalloporphyrins on the Effects of Ionizing Radiations on Normal and Malignant Cells	55,000
Dr. T. Madden Lipex Biomembranes Inc. Vancouver	Specialty Lipids for Research and Biotechnology	57,000
Dr. N.G.H. Towers Wescan Laboratories Ltd. Richmond	Production of Taxol by Tissue Culture	55,000

D. COMPUTERS AND COMPUTING

Dr. P. Aubry Softwords Research International Ltd. Victoria	Development of Neural Network Capability for Training and Diagnostic Simulations	72,332
Mr. D. Camporese Techware Systems Corp. Richmond	Application of Artificial Neural Network Models to Process Control and Automation	50,082
Mr. G. Cornwall Range Vision Inc. Burnaby	Data-Driven 3D Model Editor	95,200
Mr. C. Dewhurst Capilano Computing Systems Inc. Vancouver	Development of Methods for Interactive Simulation of Configurable Digital Logic Macros	34,650
Mr. N. Francis PenMagic Research Joint Venture Vancouver	MagicPaper Application Software for Pen-Based Notebook Computers	125,582

1. RESEARCH GRANT COMPETITION (T-1) - *Continued*

Mr. N. Koorland OSIware Inc. Burnaby	1988 CCITT X.400/Message Handling System (MHS) Product Development	125,000
Dr. I. Morrison Acquired Intelligence Inc. Victoria	Re-Engineering and Enhancing a BC-Developed Expert System Development Environment	59,516
Dr. S.H. Paine PAMAP Technologies Corp. Victoria	GIS User Interface	154,306
Dr. M.C. Quick UBC, Civil Engineering	Development of User Interface for Improved Access to UBC Watershed Model	59,838

E. ELECTRONICS AND COMMUNICATIONS

Mr. A.D. Brown Quantum Vision Corp. Vancouver	Advanced Scanning Tunneling Microscope System	47,625
Dr. J. Cavers SFU, Engineering Science	Power Efficient Transceivers for Portable Applications	91,651
Mr. D. Davidson Argus Technologies Ltd. Burnaby	Development of New Generation Modular DC Rectifiers for Telecommunications DC Power Systems	107,000
Mr. M. Edmunds Xantrex Technology Inc. Vancouver	6000 Watt System and Burn-In Power Supply	100,000
Dr. B. Empey Trionics Technology Ltd. Vancouver	Autofee Control System Network Enhancement	105,888
Mr. D. Gelbart Creo Products Inc. Burnaby	A Laser Plotter for "Direct Write" Films	90,000
Mr. C. Gunn Daniels Electronics Ltd. Victoria	Synthesized, Ultrawideband, 406-960 MHz Remote Repeater System	67,506
Mr. B. Henderson Creation Technologies Inc. Vancouver	A Computer Based Multi-Channel Digital Recorder for Pro Audio Applications	136,225
Dr. N. Jaeger UBC, Electrical Engineering	Integrated Optics High Voltage Sensors	80,000
Mr. D. Gregson Sierra-Misco Environmental Systems Victoria	Advanced Remote Monitoring & Control Telemetry for Large Scale Water & Waste Water Management System	25,000
Dr S. Kallel UBC, Electrical Engineering	Design and Implementation of an Efficient Data Link Protocol for Mobile Radio	68,500

1. RESEARCH GRANT COMPETITION (T-1) - *Continued*

Mr. J. Keightley Pthalo Systems Inc. Burnaby	Development of a High Resolution Motion Picture Film Scanner	62,350
Dr. A.M. Leung Intertech Systems Inc. Burnaby	Advanced Technology Development for the QuickChip Laser Direct Write System	100,000
Dr. D.C. Liang Aurora Instruments Ltd. Vancouver	Development of New Commercial Analytical Instruments Using Patented U.B.C. Technology of Capacitively Coupled Plasma (CCP)	150,000
Mr. J.C. Maycock Photon Systems Burnaby	Development of an Advanced Low Cost Outdoor Optical Fiber Receiver/Transmitter	91,360
Dr. F. Peabody Statpower Technologies Corp. Burnaby	Development of Inverter with Sinewave Output	84,000
Mr. D. Smythies Creo Products Inc. Burnaby	Cartridge Optical Tape Recorder	70,370
Dr. T. Tiedje UBC, Physics	Molecular Beam Epitaxy Growth of III-V Compound Semiconductor Films	40,435
Mr. A.E.J. Walford EOS Systems Inc. Vancouver	The Development of a Videogrammetry System for Rapid, Non-Contact Three Dimensional Measurement	79,036
Dr. Q. Wang UVic, Electrical & Computer Eng.	Reliable Personal Wireless Communications	80,700

F. ENERGY

Dr. K. Colbow SFU, Physics	Adsorbents for Storage of Hydrogen and Methane	52,000
Dr. R.L. Evans UBC, Mechanical Engineering	Optimization of a Low-Emission Natural Gas Engine	80,596
Mr. I.R. Killacky P.C.K. Research Ltd. Port Moody	Development of a Pressure Vessel with an Inert Gas Cap to Prevent B.L.E.V.E.'s and Enhance Product Handling	46,468
Dr. V.J. Modi UBC, Mechanical Engineering	Fuel Economy Through Aerodynamic Drag Reduction of Truck/Bus Configurations	116,100
Mr. K. Pedersen ECO Fuel Systems Inc. Langley	Development of a Computer Controlled Fuel and Ignition Management System for Natural Gas Vehicles	66,870

1. RESEARCH GRANT COMPETITION (T-1) - *Continued*

G. ENVIRONMENTAL TECHNOLOGY AND WASTE MANAGEMENT

Dr. T.N. Bell SFU, Chemistry	Chemical Destruction or Modification of Ecologically Sensitive Halogenated Compounds (CFCs and Halons)	52,500
Ms. S. Domvile Klohn Leonoff Ltd. Richmond	Arsenic Recovery from Solid Wastes	99,407
Dr. R.J. Fannin UBC, Civil Engineering	Geosynthetic Core Drains for Leak Detection Systems in Waste Containment Facilities	55,700
Mr. S. Skey Axys Environmental Systems Ltd. Sidney	Development of an Automatic Sampler for Organic Micropollutants (ASOM)	119,710
Mr. T.M. Webb ESSA Ltd. Vancouver	Development of an Integrated Environmental Impact Assessment System that Links an Expert System to a Geographic Information System	24,903

H. FOREST PRODUCTS

Dr. S. Avramidis UBC, Harvesting & Wood Science	Brown Stain in Pacific Coast Hemlock: Evaluation and Alleviation Through Special Drying Methods	58,197
Mr. T. Bonac Acu Saw Ltd. Vancouver	Grinder for Guided Circular Saws	40,200
Dr. H. Cisneros PAPRICAN Vancouver	A Microscopic Study of Wood Resin Liberation During High Yield Pulping	83,500
Dr. D.T. Eadie MacMillan Bloedel Research Burnaby	Integrated Peroxide Brightening Process Using Membranes to Recover Residual Peroxide	70,370
Mr. P.P.H. Lownertz H.A. Simons Ltd. Vancouver	Reduced Environmental Impact through New Kraft Pulping Liquor Preparation Process	31,937
Dr. B. Madsen UBC, Civil Engineering	Structural Joints for Timber Structures	47,235
Dr. G. Troughton Forintek Canada Corp. Vancouver	Development of Laminated Veneer Lumber made from B.C. Softwoods	107,532

I. FORESTRY

Dr. B.J. Hawkins UVic, Biology	Variability in the Frost Hardiness of Yellow Cypress Rooted Cuttings and Seedlings	36,020

1. RESEARCH GRANT COMPETITION (T-1) - *Continued*

Dr. D.P. Lavender UBC, Forest Sciences	Physiology of Lodgepole Pine and White Spruce Seedlings During Their Dormant Period	29,216
Dr. V.M. LeMay UBC, Forest Resources Mgt.	Development of a Dynamic Taper Model for Tree Growth	79,840
Dr. N.J. Livingston UVic, Biology	Stable Carbon Isotopes as Indicators of Increased Water Use Efficiency and Productivity in Interior Spruce	64,380
Dr. J.F. McNeel UBC, Forestry	Incorporating Value Information into Forest Operations Systems	56,570
Dr. S.E. Salcudean UBC, Electrical Engineering	Pneumatic Force-Reflecting Teleoperation Master	34,900

J. HEALTH TECHNOLOGY

Dr. M. Altamirano ID Biomedical Corp. Vancouver	DNA Probe for the Detection of Tuberculosis	81,196
Mr. R. Evans B.C. Children's Hospital Vancouver	A Graphical Display System for Real Time Ventiliation Monitoring	82,520
Mr. R.F. Green Inset Specialties Ltd. Vancouver	An Infusion Delivery Test System	60,000

K. MANUFACTURING AND MACHINERY

Dr. S.M. Calisal UBC, Mechanical Engineering	Sea Keeping Performance of UBC Series Hull Form	30,800
Dr. D. Camm Vortek Industries Ltd. Vancouver	Melting of Metallic Surfaces with Whitelight (TM) Heating	118,000
Mr. M. Lookman A & R Metal Industries Richmond	Productivity Improvements for Robotic Welding Workcell: AUTOWELD Robotic Welding Workstation	38,625
Dr. A. Meisen UBC, Applied Science	Micro-Structured Gas Adsorption Modules	83,280
Dr. R.T. Pakalnis UBC, Mining & Mineral Process Eng.	Development and Field Testing of Fiberglass Cable Bolt	60,000
Mr. D.A. Ross Northwest Mettech Corp. Vancouver	Commercialization of Plasma Torch with Axial Power or Reactant Feed	95,000

1. RESEARCH GRANT COMPETITION (T-1) - *Continued*

Mr. G. Shannon Coast Yacht Design Inc. Surrey	AutoSHIP Builder	36,500
Mr. R. Thomson BT Sports, Inc. Sidney	Windsurfing Magnetic Safety Harness	51,250
Dr. P.C. Wan UVic, Chemistry	Development of a Photochromic Material for Use in Pre-Paid Card Technology	35,000

L. MINING, MINERALS AND METALS

Dr. J.S. Laskowski UBC, Mining & Mineral Process Eng.	Pilot Plant Study on the Effect of Dense Medium Rheology on Fine Coal Beneficiation	51,480
Dr. R.D. Russell UBC, Geophysics & Astronomy	Mineral Exploration by Observing EM Responses from Seismically Excited Targets	33,840
Dr. A.J. Sinclair UBC, Geological Sciences	Geostatistical Ore Reserve Estimation of B.C. Precious Metal Deposits	70,000
	(T-1) Total $ Committed 1991-92 (88 Projects)	5,767,035

Note: The above listing reflects the reductions-in-commitment that occurred subsequent to March 31, 1992, hence the figures cited differ from those listed on the financial statements.

2. RESEARCH GRANT COMPETITION (T-2)

GRANT RECIPIENT & ORGANIZATION	PROJECT DESCRIPTION	TOTAL $ COMMITTED 1991-92
A. AGRICULTURE AND FOOD		
Mr. G.C. Boffey Royal Inland Hospital Kamloops	Isolation of the Paralysing Toxin Produced by the Ixodid Tick, *Dermacentor andersoni Stiles* and to Investigate the Feasibility of the Preparation of an Anti-Paralysing Toxin Antiserum	14,580
Dr. B. Burton Burton Veterinary Services Mt. Lehman	Development of a Commercial Process for *In-vitro* Produced Bovine and Fallow Deer Embryos	44,000
Mr. D. Elliott Applied Bio-Nomics Ltd. Sidney	Predatory Heteroptera for Biological Control of Horticultural Pests	31,384
Mr. K. Giles Pitt Meadows Farms Ltd. Richmond	Development of a Management Strategy to Replace Chemical Insecticides in Cranberries	25,189
Dr. N.L. Glass UBC, Botany	Use of Recombinant DNA to Develop a Detection Assay for Fungal Plant Pathogens	29,300
Dr. J. Hill Innovac Technology Inc. Surrey	Development of "Silkstream" Impellerless Pump for Food Processing	40,000
Dr. S. Lau Okanagan Federated Shippers Assoc. Kelowna	Prediction and Non-Chemical Control of Apple Scald	78,159
Mr. R. Powlowski B.C. Fruit Grower's Assoc. Kelowna	Development of Predator Augmentation Techniques for Control of the Pear Psylla, *Cacopsylla pyricola*	51,639
B. AQUATIC RESOURCES		
Mr. T.A. Broadley IEC Collaborative Marine R&D Ltd. Victoria	An Economic Assessment of Culturing the Manila Clam (*Tapes semidecussata*) in British Columbia	10,320
Mr. G. Deacon Moore-Clark Co. (Canada) Inc. Vancouver	Evaluation of the Function of Soyabean Lecithin in Farmed Chinook Salmon Diets	9,000
Mr. G. Hadden Fanny Bay Oysters Ltd. Union Bay	An Evaluation of Shellfish Polyculture for More Cost Efficient Use of Foreshore	6,925

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

Dr. G.K. Iwama UBC, Animal Science	Development of Simple Field Methods for the Assessment of Stress and General Condition of Fish in Aquaculture Facilities	43,100
Dr. W.W. Kay Microtek Research & Development Ltd. Victoria	Orally Administered Vaccines in Aquaculture	72,875
Dr. J. Marko Arctic Sciences Ltd. Sidney	Development of Neural Network Software for Strategic and Tactical Prediction of Ice Conditions	37,432
Mr. T. Needham British Columbia Packers Ltd. Richmond	Environmental Effects and Production Parameters of Lakepen Reared Atlantic Salmon Smolts	63,850
Mr. K. Onclin Wood Bay Salmon Farms Ltd. Halfmoon Bay	Olfactory Imprinting as a Method for Sorting Maturing Salmon from Non-Maturing Salmon in Aquaculture Reared Populations	24,721
Dr. R.J. Petrell UBC, Bio-Resource Engineering	Non-Invasive Enumeration and Biomass Size Determination of Farmed Salmon	58,315
Dr. R.G. Reid UVic, Biology	Manila Clam Seed Production Enhancement	49,219
Dr. R.A. Wall UBC, Pharmacology & Therapeutics	Pharmacokinetics and Metabolism of Antibiotics in Salmonids	57,384

C. BIOTECHNOLOGY

Dr. P.E. Axelrood B.C. Research Corp. Vancouver	Microbial Inoculants for Conifer Seedlings	85,325
Dr. W.R. McMaster UBC, Medical Genetics	Photodynamic Killing of Metastisized Breast Carcinoma Cells	63,300
Dr. R.D. Smith Micrologix International Ltd. Victoria	Antibody-based Diagnostic Test for *H. pylori*	89,550

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

D. COMPUTERS AND COMPUTING

Mr. E.J. Byres Artemis Systems Engineering Ltd. Vancouver	Artemis Power Manager - Computerized Lighting, Heat and Ventilation and Security Control Systems for Large Public Facilities	33,300
Mr. S. Goh Digital Resource Systems Ltd. Nanaimo	Enhancement of Geographic Information System Product, TerraSoft	85,887
Mr. N.J. Goldstein MacDonald Dettwiler & Associates Richmond	Satellite Payload Scheduling	46,030
Mr. A. Hildebrandt Total Care Technologies Inc. Kelowna	A Knowledge Based Staff Scheduling System	83,981
Dr. J. Jones SFU, Engineering Science	Software for Intelligent Computer-Aided Design	88,000
Mr. P. Lacroix Quester Tangent Corp. Sidney	Development of a Software Product for the Validation and Entry of Water Depth Data into Geographic Information Data Bases	43,272
Mr. C. Manuel Sanctuary Woods Multimedia Victoria	Multimedia Authoring Production Tool Development	54,975
Mr. K. Reimer FirstClass Systems Corp. White Rock	HeadStart - Expert Computer Training Distribution System	108,433
Mr. F. Wiese ILS International Library Systems Vancouver	Image Database Management System	32,119
Mr. P. Wolfe Digital Dispatch Systems Inc. Richmond	Application Developer's Tool Kit for Mobile Data Industry	76,520

E. ELECTRONICS AND COMMUNICATIONS

Dr. A.S. Beasley Nexus Engineering Corp. Burnaby	Personal Communication Networks Via Cable Television Plant	145,032

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

Mr. D. Filmer Norsat International (Research) Surrey	Multichannel Microwave Distribution System (MMDS) Integrated Feed and Downconverter	92,129
Dr. M. Parameswaran SFU, Engineering Science	Micromachining of Silicon for Sensors and Actuators Fabrication	89,617
Mr. J. Sui Viscount Industries Ltd. Vancouver	A Multiple Residence Access Control and Communications System Using Intelligent Devices	171,827
Mr. T.B. Touhey InStep Mobile Communications Vancouver	Computer Generated and Controlled Voice for Taxi Fleet Dispatching	125,000
Dr. C. Winter Quantum Technology Corp. Surrey	Development of Cold Finger Helium Reliquefier for Medical Magnetic Resonance Imaging Machine Superconducting Magnet Cooling	45,000

F. ENERGY

Mr. J.D. Chato BO Technical Developments Ltd. Vancouver	Pulse Blade Boiler Development	42,377
Dr. J.R. Grace UBC, Chemical Engineering	A New Process for Natural Gas Reforming	32,000
Mr. H. Malm TIAC Systems Port Moody	Development of an Instantaneous Rotational Velocity (IRV) System for Engines	69,703

G. ENVIRONMENTAL TECHNOLOGY AND WASTE MANAGEMENT

Mr. R. Bagatella London Drugs Richmond	Development of Methods for the Disposal of Photofinishing Effluents in a Cost-Effective and Environmentally Safe Way	41,400
Mr. A. Gibb B.C. Research Corp. Vancouver	Optimization of Biological Phosphorus Removal in a Combined Fixed and Suspended Growth Wastewater Treatment Process	59,000
Dr. J.P. Kimmins UBC, Forestry	Recycling Urban Sewage Sludge and Other Organic "Wastes" as Slow Release Forest Fertilizer	103,162

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

Dr. D.S. Mavinic UBC, Civil Engineering	Enhanced Anaerobic Digestion of Mixed Wastewater Sludges Through Alkaline Solubilization	64,480
Dr. G.J. Reimer Can Test Ltd. Vancouver	Development of a Rapid and Economical Screening Method for Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans Using Time-Resolved Fluorescence Immunoassay	59,198
H. FOREST PRODUCTS		
Dr. J.D. Barrett UBC, Harvesting and Wood Science	Advanced Grading Technology for Structural Lumber	244,845
Mr. R. Gooding PAPRICAN Vancouver	Measuring Plastic Contamination in Pulp Using a Separation/Detection Technique	62,500
Mr. J. Kennedy Newnes Automation Inc. Salmon Arm	Development of a Computer Vision System for Identifying Surface Defects of Lumber for Edger Optimizer Applications in Sawmills.	123,482
Dr. R. Miotti H.A. Simons Ltd. Vancouver	Water Consumption Reduction in Waste Based Newsprint Operations	59,026
Dr. R.S. Seth PAPRICAN Vancouver	Rapid, Simultaneous Measurement of Fibre Length, Deformation and Flexibility	54,193
Dr. M. Solinas MacMillan Bloedel Research Burnaby	Nonchlorine Bleaching of Kraft Pulp	119,040
Dr. J.K. Turnbull MacMillan Bloedel Research Burnaby	Enhanced Chemical Thermal Mechanical Pulp for High Performance Groundwood Printing Papers	142,100
Mr. L.S. Wasik Aurel Systems Inc. Burnaby	Dynamic Electronic Flowsheet Process Simulator	76,671
Dr. S.G. Withers UBC, Chemistry	Environmentally Benign Control of the Fungal Degradation of Wood Products	105,425

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

I. FORESTRY

Dr. J.E. Carlson UBC, Forest Sciences	DNA Marker-Assisted Selection for Weevil Resistance in Spruce	99,850
Dr. Y.A. El-Kassaby Canadian Pacific Forest Products Ltd. Saanichton	Domestication and Biological Diversity in Coastal Douglas-fir	90,000
Dr. M.C. Feller UBC, Forestry	Effects of Slashburning and Mechanical Site Preparation Treatments on Productivity of Engelmann Spruce - Subalpine Fir Forests	50,036
Dr. J. Kumi MacMillan Bloedel Limited Nanaimo	SIVE (Stress-Induced Volatile Emissions): A Seedling Quality Test for all Phases of Forest Renewal (nursery to field)	60,669
Mr. W.R. Hook Precision Moisture Instruments Shawnigan Lake	Accurate Soil Moisture Measurement: Remote Diode Probes, Low Cost Field Units	120,433
Mr. G. Josin Neural Systems Inc. Vancouver	A Neural Network Growth and Yield Simulator	23,586
Dr. K. Klinka UBC, Forest Sciences	Effects of Climate, Soil Water, and Soil Nutrients on Growth of Coastal Western Hemlock	40,000
Dr. P.L. Marshall UBC, Forest Resources Management	Development of Forest Mensuration and Biometrics Software	24,052
Dr. B.C.S. Sutton B.C. Research Corp. Vancouver	Molecular Genetic Analysis of Conifers for Seed Orchard and Tree Improvement Planning	77,443
Dr. P. von Aderkas UVic, Biology	Artificial Seed of Western Larch	36,000
Dr. Y. Wand UBC, Commerce	Applications of Expert Systems Technology to Forestry Site Preparation Decisions	44,131

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

J. HEALTH TECHNOLOGY

Dr. G. Birch Regenesis Development Corp. Vancouver	Development of an Advanced Prototype Remote Gateway Product	60,228
Dr. A. Chan Quadra Logic Technologies Inc. Vancouver	Photodynamic Therapy for AIDS: Extracorporeal Inactivation of Human Immunodeficiency Virus in Blood and Bone Marrow	106,194
Mr. L. Grenier A.L.I. Technologies Ltd. Burnaby	A Mini-PACS (Picture Archiving and Communications System) for Ultrasound	205,900

K. MANUFACTURING AND MACHINERY

Mr. R.D. Brost Crystar Research Inc. Victoria	Development of a Self-Dressing Tool for Sapphire Fabrication	33,803
Mr. G. Casoli Softek Services Ltd. Vancouver	A General Three Dimensional Steel Design Program	44,108
Dr. A.H. Rawicz Andrew Engineering Inc. Burnaby	Diagnostic Expert System for Heavy Trucks with Rough Ride Problems	55,950
Mr. P. Schmelcher Nebula Consultants Inc. Delta	Development of a Glass Forming Robot	49,795
Dr. B. Tabarrok UVic, Mechanical Engineering	Further Development of the WISDOM Finite Element Program and the Promotion of the Finite Element Methodology in B.C. Engineering Industries	35,100
Dr. J. Young Teleflex Canada Ltd. Richmond	Development of a Diesel Fired Vehicle Heater System	26,653

L. MINING, MINERALS AND METALS

Dr. I.A. Paterson Cominco Ltd. Vancouver	Precious Metal Mineralization, Iskut River Area, Northwestern British Columbia	112,651
Mr. T.W. Spilsbury Teck Corp. Vancouver	Copper-Gold Porphyry Systems of British Columbia	82,400

2. RESEARCH GRANT COMPETITION (T-2) - *Continued*

Dr. G.W. Toop Cominco Ltd. Trail	System for the On-Line Monitoring of Lead Softening	21,500

M. OTHER

Dr. C. Zala Barrodale Computing Services Victoria	Development of Unix Workstation Software for Analyzing Seismic and Ultrasonic Images	51,788

N. AWARDS DECLINED

	1 Award	27,259
	(T-2) Total $ Committed 1991-92 **(80 Projects)**	5,344,820

Note: The above listing reflects the reductions-in-commitment that occurred subsequent to March 31, 1992, hence the figures cited differ from those listed on the financial statements.

INDUSTRIAL POST DOCTORAL FELLOWSHIPS (I.P.D.F.) AWARDED 1991-92

1. NEW AWARDS

Award Recipient	Discipline Year of Graduation University	Employing Company	$ Awarded
Dr. H.R. Frith	Zoology 1991, UBC	Seakem Oceanography Sidney	25,000
Dr. K. Harrison	Biology 1991, Dalhousie University	Syndel Laboratories Ltd. Vancouver	25,000
Dr. B. Johnstone	Biochemistry 1991, University of California, Davis	Microtek R&D, Ltd. Victoria	25,000
Dr. R. Krzywanski	Chemical Eng. 1992, UBC	Arbokem Inc. Vancouver	25,000
Dr. S. Li	Agriculture 1991, Queen's University	E.S. Cropconsult Ltd. Vancouver	25,000
Dr. I.R. McLean	Aerospace Eng. 1990, University of Southern California	B.C. Research Corp. Vancouver	25,000
Dr. A. Spence	Mechanical Eng. 1991, UBC	Kinetic Technologies Inc. Clearbrook	25,000
Dr. S. Wang	Physics 1991, SFU	Brown Meddings Elemental Research Inc. N. Vancouver	25,000
Dr. J. Wei	Polymer Chemistry 1988, Swiss Federal Institute of Technology, Zurich	Ballard Advanced Materials Corp. N. Vancouver	25,000
Dr. J. Yu	Chemical Eng. 1991, UBC	Pacific Fermentation Industries Ltd. Langley	25,000
Dr. H. Zhou	Physics 1988, University of California, San Diego	CTF Systems Inc. Port Coquitlam	25,000
		Subtotal (11 awards)	**275,000**

INDUSTRIAL POST DOCTORAL FELLOWSHIPS - *Continued*

2. RENEWAL AWARDS

Award Recipient	Discipline Year of Graduation University	Employing Company	$ Awarded
Dr. H.F. Jang	Physics 1989, McMaster	PAPRICAN Vancouver	25,000
Dr. D. Miller	Entomology 1990, SFU	Phero Tech Inc. Delta	25,000
Dr. R. Racca	Physics 1990, UVic	Vivitro Systems Inc. Victoria	25,000
Dr. Y. Zhang	Physics 1990, SFU	Intertech Systems Inc. Burnaby	25,000
		Subtotal (4 awards)	**100,000**
		Total (15 awards)	**375,000**

GRADUATE RESEARCH, ENGINEERING AND TECHNOLOGY (G.R.E.A.T.) SCHOLARSHIPS AWARDED 1991-92

1. NEW AWARDS (COMPETITION GC-11)

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
L. Abraham	UBC, Harvesting & Wood Science	C. Breuil & J. Saddler	Forintek Canada Corp. Vancouver	16,000
S. Balfry	UBC, Animal Science	G. Iwama	Integrated Broodstock International Inc. North Vancouver	16,000
L. Barrett-Lennard	UBC, Zoology	J.N.M. Smith	Vancouver Public Aquarium Vancouver	16,000
S. Binnie	UBC, Botany & Forest Sciences	E. Camm	B.C. Research Corp. Vancouver	16,000
B. Booth	UBC, Forest Sciences	F. Bunnell	Tolko Industries Ltd. Kamloops Ministry of Forests Kamloops Ministry of Environment Kamloops	16,000
L. Brown	UBC, Animal Science	G. Iwama	Microtek R & D Ltd. Sidney Dept. of Fisheries & Oceans Nanaimo	16,000
W. Burchill	UBC, Electrical Engineering	C. Leung	Mobile Data International Richmond	16,000
V. Craig	UBC, Forest Sciences	F. Bunnell	Greater Vancouver Water District Burnaby B.C. Ministry of Forests Burnaby	16,000
G. Davidson	UBC, Electrical Engineering	M.R. Ito	MacDonald Dettwiler and Associates Richmond	3,300
M. Dehnel	UBC, Physics	K. Erdman	Ebco Industries Ltd. Richmond	16,000
J. Deland	SFU, Biological Sciences	B.D. Roitberg	Agriculture Canada Summerland	9,333
J. Fraser	SFU, Natural Resources Management	M. Jaccard	B.C. Gas Inc. Vancouver	16,000

1. NEW AWARDS (COMPETITION GC-11) - *Continued*

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
E. Groot	UBC, Animal Science	G. Iwama	B.C. Packers Ltd. Vancouver Pacific Biological Station Nanaimo	16,000
J. Hole	UBC, Geophyics and Astronomy	R.M. Clowes	Chevron Canada Resources Calgary, Alberta Pacific Geoscience Centre Sidney	16,000
S. Hudak	UBC, Plant Science and Zoology	J. Myers	Applied Bionomics Sidney	5,000
T. Jones	UBC, Animal Science	G.K. Iwama	Dept. of Fisheries and Oceans Nanaimo	16,000
B. Kishchuk	UBC, Forest Sciences	G.F. Weetman	B.C. Ministry of Forests Vernon MacMillan Bloedel Ltd. Nanaimo	16,000
A. Koch	UBC, Electrical Engineering	M.P. Beddoes	Microtel Pacific Research Ltd. Burnaby	16,000
B. Kukan	UBC, Plant Sciences	J.H. Myers	B.C. Blueberry Development Council Victoria	16,000
H. Lai	UBC, Mathematics	R.M. Miura	Pacific Artificial Intelligence Systems Corp. Albion	16,000
E. Lam	UVic, Biology	A.P. Austin	Taplow Feeds North Vancouver Shibusa Pond Services Duncan	16,000
K. Lewis	UBC, Forest Sciences	J. McLean	Cdn. Pacific Forest Products Ltd. Saanichton	16,000
J. Li	UVic, Electrical Engineering	P. Agathoklis	Pacific Forestry Centre Victoria	16,000
P. Lister	UBC, Mechanical Engineering	G.S. Schajer	MacMillan Bloedel Research Burnaby	16,000
P. Lupini	SFU, Engineering Science	V. Cuperman	MPR Teltech Ltd. Burnaby	16,000

1. NEW AWARDS (COMPETITION GC-11) - *Continued*

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
D. MacQuarrie	UBC, Civil Engineering	D.S. Mavinic	GVRD Burnaby	14,000
M. McCullagh	SFU, Biological Sciences	Z.K. Punja	B.C. Greenhouse Vegetable Surrey	16,000
R. McGregor	SFU, Biological Sciences	B.D. Roitberg	Agriculture Canada Summerland	16,000
S. McInnis	UBC, Plant Science	J. McPherson	B.C. Research Corp. Vancouver	16,000
S. Neville	UVic, Electrical & Computer Engineering	N.J. Dimopoulos	Rogers Cable T.V. Ltd. Victoria	8,667
J. Nyboer	SFU, Faculty of Applied Sciences	M. Jaccard	B.C. Hydro & Power Authority Vancouver	7,533
C. Ong	UBC, Electrical Engineering	C. Leung	Microtel Pacfic Research Ltd. Burnaby	4,400
C. Parfeniuk	UBC, Metals & Materials Engineering	I.V. Samarasekera	Crystar Research Inc. Victoria	16,000
S. Poon	UBC, Electrical Engineering	R.K. Ward	Microscan Imaging and Instrumentation Inc. Vancouver	16,000
G. Powell	UBC, Plant Science (Agricultural Sciences)	M.D. Pitt	Ministry of Forests Victoria	16,000
J. Powell	UVic, Biology	N. Sherwood	General Sea Harvest Surrey	16,000
C. Rogers	UBC, Civil Engineering	G.A. Lawrence	Fisheries R & D Section Vancouver	5,000
R. Schnorr von Carolsfeld	UVic, Electrical & Computer Engineering	V.K. Bhargava	Sierra-Misco Environment Ltd. Victoria	16,000
G. Soerensen	SFU, Physics	S. Gygax	Quantum Technology Corp. Surrey	16,000
D. Stevens	UBC, Electrical Engineering	M.R. Ito	MacDonald Dettwiler and Associates Richmond	5,000
J. Strapp	UVic, Geography	P. Keller	Digital Resource Systems Ltd. Nanaimo	16,000
M. Teachman	UVic, Mechanical Engineering	D.S. Scott	Ballard Power Systems North Vancouver	16,000

1. NEW AWARDS (COMPETITION GC-11) - *Continued*

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
S. Tilley	UVic, Computer Sciences	H.A. Muller	IBM Canada Ltd. Victoria	16,000
E. Urquhart	SFU, Biological Sciences	Z.K. Punja	B.C. Greenhouse Vegetable Surrey	16,000
B. Wells	UVic, Biology	J.N. Owens	Pacific Forestry Centre Victoria	13,333

2. RENEWAL AWARDS (COMPETITION GC-11)

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
B. Allison	UBC, Microbiology	J.G. Levy	Quadra Logic Technologies, Inc. Vancouver	16,000
D. Atagi	UBC, Forestry Science, Zoology, and Westwater	T.G. Northcote	MacMillan Bloedel Ltd. Nanaimo	16,000
S. Blundell	SFU, Biological Sciences	L.J. Albright	Microtek R and D Ltd. Sidney	16,000
C. Bradley	UVic, Mechanical Engineering	G.W. Vickers	Comptec International Ltd. Surrey	9,333
R. Braithwaite	UBC, Electrical Engineering	M.P. Beddoes	ISE Research Inc. Port Coquitlam	12,128
G. Brown	UBC, Forest Sciences	J.E. Carlson	Cdn. Pacific Forest Products Ltd. Saanichton	3,300
R. Cam	UBC, Electrical Engineering	C. Leung	MPR Teltech Ltd. Burnaby	16,000
E. Charter	UBC, Bio Resource Engineering	K.V. Lo	Canadian Lysozyme Inc. Abbotsford	16,000
G. Clarke	UBC, Physics	R.R. Parsons	Pacific Microelectronics Centre Burnaby	16,000
G. Corley-Smith	SFU, Biological Sciences	B.A. McKeown	Salt Springs Aquafarms Ltd. West Vancouver Biotechnology, Genetics and Nutrition Centre West Vancouver	16,000
P. Curry	UBC, Microbiology	J. Levy	Quadra Logic Technologies, Inc. Vancouver	5,000
M. Davenport	UBC, Physics and Microbiology	G. W. Hoffmann	Microtel Pacific Research Ltd. Burnaby	3,300

2. RENEWAL AWARDS (COMPETITION GC-11) - *Continued*

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
M. Kurz	SFU, Biological Sciences	W. Vidaver	B.C. Research Corp. Vancouver	16,000
I. Leal de Stevenson	UVic, Biochemistry & Microbiology	S. Misra	Vernon Seed Orchard Ltd. Houston	16,000
B. Lehmann	UBC, Mechanical Engineering	S.G. Hutton	MacMillan Bloedel Research Burnaby	16,000
			CAE Machinery Ltd. Vancouver	
H. Leitch	UBC, Microbiology	J. Levy	Quadra Logic Technologies Inc. Vancouver	16,000
D. Lowery	UBC, Plant Science	M.B. Isman	Phero Tech Inc. Delta	16,000
G. Marquis	UVic, Physics & Astronomy	G. Spence	Pacific Geoscience Centre Sidney	16,000
S. Massoumi	UBC, Electrical Engineering	S. Kallel	Mobile Data International Richmond	10,667
M. McGuire	SFU, Engineering Sciences	V. Cuperman	MPR Teltech Ltd. Burnaby	16,000
D. Menemenlis	UVic, Electrical & Computer Engineering	A. Zielinski	Institute of Ocean Sciences Sidney	16,000
J. Morgan	UBC, Forest Sciences	R.P. Willington	Fletcher Challenge Ltd. Crofton	16,000
M. Namchuk	UBC, Chemistry	S. Withers	Forintek Canada Corp. Vancouver	16,000
K. Naumann	SFU, Biological Sciences	M.L. Winston	Phero Tech Inc. Delta	16,000
M. Neumann	UBC, Forest Sciences	B. van der Kamp	B.C. Research Corp. Vancouver	16,000
J. Quick	UBC, Mechanical Engineering	I.S. Gartshore	H.A. Simons Ltd. Vancouver	3,300
J. Quinton	SFU, Biological Sciences	B. McKeown	Nutrition Program/West Vancouver Laboratory West Vancouver	16,000
D. Rusch	UBC, Forest Sciences	B.J. van der Kamp	B.C. Research Corp. Forest Biotechnology Centre Vancouver	16,000

2. RENEWAL AWARDS (COMPETITION GC-11) - *Continued*

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
M. Kurz	SFU, Biological Sciences	W. Vidaver	B.C. Research Corp. Vancouver	16,000
I. Leal de Stevenson	UVic, Biochemistry & Microbiology	S. Misra	Vernon Seed Orchard Ltd. Houston	16,000
B. Lehmann	UBC, Mechanical Engineering	S.G. Hutton	MacMillan Bloedel Research Burnaby	16,000
			CAE Machinery Ltd. Vancouver	
H. Leitch	UBC, Microbiology	J. Levy	Quadra Logic Technologies Inc. Vancouver	16,000
D. Lowery	UBC, Plant Science	M.B. Isman	Phero Tech Inc. Delta	16,000
G. Marquis	UVic, Physics & Astronomy	G. Spence	Pacific Geoscience Centre Sidney	16,000
S. Massoumi	UBC, Electrical Engineering	S. Kallel	Mobile Data International Richmond	10,667
M. McGuire	SFU, Engineering Sciences	V. Cuperman	MPR Teltech Ltd. Burnaby	16,000
D. Menemenlis	UVic, Electrical & Computer Engineering	A. Zielinski	Institute of Ocean Sciences Sidney	16,000
J. Morgan	UBC, Forest Sciences	R.P. Willington	Fletcher Challenge Ltd. Crofton	16,000
M. Namchuk	UBC, Chemistry	S. Withers	Forintek Canada Corp. Vancouver	16,000
K. Naumann	SFU, Biological Sciences	M.L. Winston	Phero Tech Inc. Delta	16,000
M. Neumann	UBC, Forest Sciences	B. van der Kamp	B.C. Research Corp. Vancouver	16,000
J. Quick	UBC, Mechanical Engineering	I.S. Gartshore	H.A. Simons Ltd. Vancouver	3,300
J. Quinton	SFU, Biological Sciences	B. McKeown	Nutrition Program/West Vancouver Laboratory West Vancouver	16,000
D. Rusch	UBC, Forest Sciences	B.J. van der Kamp	B.C. Research Corp. Forest Biotechnology Centre Vancouver	16,000

2. RENEWAL AWARDS (COMPETITION GC-11) - *Continued*

Name of Student	University & Department	Name(s) of Academic Supervisor(s)	Name(s) of Cooperating Organization(s)	$ Committed
W. Stewart	UBC, Civil Engineering	R.G. Campanella	Conetec Investigations Ltd. Vancouver	16,000
C. Teerling	SFU, Biological Sciences	J.H. Borden	Phero Tech Inc. Delta	16,000
			Western Greenhouse Vegetable Research Council Surrey	
			Agriculture Canada Research Station Agassiz	
J. Thornton	UVic, Biochemistry & Microbiology	W.W. Kay	Microtek R & D Ltd. Sidney	16,000
D. Tse	UBC, Mechanical Engineering	M. Salcudean	Weyerhaeuser Canada Ltd. Kamloops	16,000
M. van Ham	UBC, Forest Sciences	J.P. Kimmins	GVRD Burnaby	9,333
R. Weilgus	UBC, Forest Sciences	F. Bunnell	Darkwoods Forestry Nelson	16,000
			Crestbrook Forest Ind. Cranbrook	
K. White	SFU, Biological Sciences	J.H. Borden	Phero Tech Inc. Delta	16,000
			Agriculture Canada Summerland	
P. Williamson	UBC, Mechanical Engineering	S.M. Calisal	B.C. Research Corp. Vancouver	16,000
L. Zedel	UBC, Oceanography	S. Pond	Institute of Ocean Sciences Sidney	8,000
			Total (96 awards)	**1,340,357**

Note: The above listing reflects the reductions-in-commitment that occurred subsequent to March 31, 1992, hence the figures cited differ from those listed on the financial statements.

SCIENCE AND TECHNOLOGY AWARDS FOR RETURNING STUDENTS (S.T.A.R.S.) SCHOLARSHIPS AWARDED 1991-92

1. NEW AWARDS (Competition SC-4)

Name of Student	University & Department	Name of Academic Supervisor	Cooperating Organization	$ Awarded
J. Cathcart	UBC, Civil Engineering	S.O.D. Russell	Crippen Consultants Vancouver	25,000
M. Boulanger	UBC, Civil Engineering	W.K. Oldham	Reid, Crowther and Partners Ltd. North Vancouver	25,000
			Subtotal (2 Awards)	**50,000**

2. RENEWAL AWARDS (Competition SC-4)

Name of Student	University & Department	Name of Academic Supervisor	Cooperating Organization	$ Awarded
J. S.V. Carolsfeld	UVic, Biology	N. Sherwood	Archipelago Marine Research Victoria	25,000
D. Heath	UBC, Animal Science	G.K. Iwama	Yellow Island Aquaculture Ltd. Campbell River	25,000
			Subtotal (2 Awards)	**50,000**
			Total (4 Awards)	**100,000**

TRAINING EMPLOYMENT IN SCIENCE AND TECHNOLOGY (T.E.S.T.) POSITIONS SUPPORTED 1991-92

Award Recipient	Employee	Education	$ Committed
AgriForest Technologies Ltd. Kelowna	C.B. Cooper	Diploma Biological Sci. BCIT	6,750
Beak Consultants Ltd. Richmond	J. Peach	M.Sc. Biology UBC	6,000
Canadian Lysozyme Inc. Abbotsford	L. Balinsky	B.Sc. Biology Trinity Western University	7,200
Capstan Management Inc. Victoria	not selected		9,000
Creation Technologies Inc. North Vancouver	K. Kotorynski	M.Sc. Physics Univ. of Waterloo	9,000
E.S. Cropconsult Ltd. Vancouver	not selected		13,680
EVS Consultants Ltd. North Vancouver	C. Gunter	M.Sc. Geochemistry Queens University	9,000
FALCOR Security Systems Ltd. Victoria	L. Varga	B.A.Sc. Electrical Eng. UVic	9,000
INDE Electronics Inc. Burnaby	T.C. Nguyen	B.Eng. Computer Eng. McMaster University	9,000
Independent Power Corp. Surrey	R. Reyes	Diploma Electrical Engineering Technology BCIT	7,200
JB Laboratories Ltd. Victoria	not selected		6,840
JR Laboratories Inc. Burnaby	C. Hamade	B.Sc. Agriculture UBC	7,521.48
Micrologix International Ltd. Victoria	B. Heffelfinger	M.B.A. Business UBC	9,000
Optionware Business Systems Inc. Vancouver	R. Bekar	B.Sc. Computer Science UBC	9,000

T.E.S.T. POSITIONS SUPPORTED - *Continued*

Award Recipient	Employee	Education	$ Committed
Pacific Pinnacle Investments Ltd. dba Pacific Western Brewing Prince George	M. Logan	B.Sc. Biochemistry UBC	8,280
Pacific Rim Foods Inc. Vancouver	D. Hornby	B.Sc.(Agr.) Food Science UBC	9,000
Paul Wong International, Inc. Vancouver	R. Lichota	B.A.Sc. Mechanical Eng. UBC	7,200
Polymer Engineering Co. Ltd. New Westminster	D. Fookes	B.A.Sc. Metals and Materials Eng UBC	13,824
Prodigy Technologies Corp. Vancouver	P. Lo	Diploma Computer Systems Langara College	8,100
RJM Computer Systems Ltd. Vancouver	not selected		9,000
Sierra-Misco Environmental Systems Ltd. Victoria	M. Mitchell	B.Eng. Electrical Eng. UVic	6,000
		Total (21 positions)	**179,595.48**

Note: The above listing reflects the reductions-in-commitment that occurred subsequent to March 31, 1992, hence the figures cited differ from those listed on the financial statements.

MARKET ASSESSMENT FOR RESEARCH AND TECHNOLOGY (M.A.R.T.) GRANTS AWARDED 1991-92

GRANT RECIPIENT & ORGANIZATION	PROJECT DESCRIPTION	TOTAL $ COMMITTED 1991-92
Mr. A. Alexander Klohn Leonoff Richmond	Arsenic Remediation Technology	19,920
Mr. D. Atnikov Novax Industries Corp. New Westminster	Urban Computerized Central Traffic Management System	20,000
Dr. K. H. Brackhaus SOLUS Technology Corp. New Westminster	SOLUS System - Computer Based Facilities Management System	16,050
Mr. A. Burgess Northwest Mettech Corp. Vancouver	Market Assessment and Opportunities for an Axial Injection Plasma Torch	19,825
Dr. J.K. Cavers SFU, Engineering Science	Transceiver Design for Mobile and Personal Communications	20,000
Ms. W. Cordua-von Specht Andronic Devices Ltd. Richmond	Automated Aliquotting	15,000
Dr. V. Cuperman SFU, Engineering Science	Speech-Compression Technology	20,000
Mr. B. Dashner Dynamic Control Systems Delta	Non-Contact Intelligent Optical Sensors	19,525
Mr. R. Drew Canadian Fishing Co. Vancouver	Fish Sauce Market Study	20,000
Dr. A. Eaves Terry Fox Laboratory Vancouver	Export Market Potential of New Cancer Treatments Researched and Developed in B.C.	20,000
Mr. J. Eaves TIR Systems Ltd. Burnaby	Market Assessment for New Interior Light Pipe System Using TIR's Proprietary Prism	19,793
Mr. J. Francis Tantus Electronics Corp. Port Moody	X-Ray Detector System	18,188

M.A.R.T. GRANTS AWARDED - *Continued*

Dr. C. Guarnaschelli Turborator Technology Inc. Burnaby	North American Marketing Strategy for Turborator Aerator Mixers	20,000
Mr. R. Hannah Arbutus Society for Children Victoria	QA Pressure Measurement PAD	19,450
Dr. B. Harvey MTL Biotech Ltd. Victoria	Market Assessment Study for Trochofeed	19,900
Mr. A. Hildebrandt Total Care Technologies Inc. Kelowna	Knowledge Based Staff Scheduling System	18,672
Mr. K. Hisko Unitrol Data Protection Systems Inc. Vancouver	Immunity Plus Software	16,265
Mr. W. Hook Precision Moisture Instruments Shawnigan Lake	Low Cost Moisture Measurement Instruments for Field Applications	17,500
Mr. E. Hung Digital Resource Systems Ltd. Nanaimo	TerraSoft Geographic Information System (GIS) Software	19,795
Dr. N. Jaeger UBC, Electrical Engineering	Integrated Optics High Voltage Sensors	19,439
Mr. J.W. Jantunen Canadian Integrated Project Resources Vancouver	Piping Information Technology System - (PIT) System	20,000
Mr. K. Jaremco RTI Research Ltd. Surrey	Accupro Gun Care	20,000
Mr. H.J. Krutzen Spilsbury Communications Ltd. Vancouver	Identification of Opportunities for Marketing a Digital Voice Repeater in North America	10,000
Mr. R. Lake Eos Systems Inc. Vancouver	Non Contact Three Dimensional Measurement Systems for Videogrammetry	19,795
Dr. C. Laszlo UBC, Clinical Engineering	Train on Phone, Portacap, MagnaTel, Porta-IR, Secure FM	18,344

M.A.R.T. GRANTS AWARDED - *Continued*

Dr. D.C. Liang Aurora Instruments Ltd. Vancouver	Commercialization of New Commercial Analytical Instruments	10,420
Mr. W.M. Lucking DynaMech Research Inc. Victoria	Cycle Computer System	19,175
Mr. B. McKay BO Technical Developments Ltd. Vancouver	Feasibility of Developing Pulse Blade Combustors for Export to California	20,000
Mr. T.N. Mitchell Int. Telepresence Corp. Vancouver	Stereoscopic Imaging for Minimally-Invasive Surgery	15,000
Mr. D. Nohr Pelagic Fisheries Longline Cooperative Richmond	An Assessment of Imported Processing Technologies on the Marketability of Pelagic Shark Species	16,782
Dr. D. Nyberg ARC Sonics Inc. Burnaby	Soil Remediation Using Low Frequency Sonic Energy	20,000
Dr. L. Peake UVic, Physical Education	Electronic Guidance System for the Visual Impaired	17,500
Mr. P.J. Prihoda Compax Eng. & Development Ltd. Burnaby	Market Assessment and Opportunities for Laminated Veneer Lumber	19,260
Mr. M. Robinson CDD Expert Software Inc. Vancouver	Bridgesoft Automated Engineering Design Software	20,000
Dr. L. Rucker Ergologic Enterprises Inc. Vancouver	Computer Keyboard	19,956
Mr. R. Schouten Pow-R Tools Corporation Burnaby	Quantify Market Potential for Newly Developed Cordless Nailing & Stapling Tools	19,742
Dr. F. R. Sharp R. Sharp Ltd. Vancouver	Medical Syringe Designs with Multiple Innovative Safety Features	13,500
Mr. M. Taylor Talkie Tooter (Canada) Ltd. Vancouver	Safety Link and Multi-Monitor	19,902

M.A.R.T. GRANTS AWARDED - *Continued*

Mr. K. Tongue First Class Systems Corp. White Rock	HEADSTART Technology	19,955
Dr. G. Yorke Yorke Automation Ltd. Vancouver	Market Study Of The Process (Manufacturing) Industries.	17,120
Mr. F. Zhou Top Computech Company Ltd. Vancouver	Market Assessment for TopBridge and TopFonts	20,000
	TOTAL (41 awards)	**755,773.00**

Note: The above listing reflects the reductions-in-commitment that occurred subsequent to March 31, 1992, hence the figures cited differ from those listed on the financial statements.

SCIENCE COUNCIL OF B.C. -

Schedule of Health Development Fund (HDF-SCBC) Commitments for the year ended March 31, 1992

1. HEALTH DEVELOPMENT FUND (SCBC) COMPETITION #3 (HDF-3)

GRANT RECIPIENT & ORGANIZATION	PROJECT DESCRIPTION	TOTAL $ COMMITTED 1991-92
Dr. R. Baxter Dr. Richard J. Baxter Inc. Kelowna	Development of the Fibreoptic Endotracheal Tube	40,000
Mr. M. Dance Andronic Devices Ltd. Richmond	Development and Evaluation of an Advanced Gas Introduction System for Surgical Insufflation	45,000
Mr. R. Evans B.C. Children's Hospital Vancouver	Automation of the IV Admixture Process	112,088
Dr. C. Hershler UBC, Clinical Engineering	Development of a Magnetic Stimulator	58,730
Dr. M.J. Hope UBC, Medicine	Lipid Based Delivery Vehicles for the Topical Administration of Drugs	30,000
Dr. C. Laszlo UBC, Electrical Engineering	Assistive Listening Devices (ALDs) for the Hard of Hearing	48,640
Mr. T. Mitchell International Telepresence Corp. Vancouver	Research into the Use of Stereoscopic (3D) Vision Systems Connected to an Endoscope for Minimally Invasive Operations such as Gall Bladder Removal	100,000
Dr. J. Moehr UVic, Health Information Science	Health Link	86,591
Dr. J. Morrison SFU, Applied Science	Improved Alignment Coupling for Lower Limb Prostheses	34,126
Mr. P. Nix E.V.S. Consultants Ltd. North Vancouver	Confirmation and Further Development of Sediment Bags to Assess Microbiological Water Quality and Detect Contaminant Sources	49,040
Dr. B. Palcic B.C. Cancer Agency Vancouver	Analytical Imaging Mammography (AIM) Device	86,500

1. H.D.F. (SCBC) COMPETITION #3 (HDF-3) - *Continued*

Dr. T. Richardson Richardson Industries North Vancouver	Thermoregulator for Applications in Medical Research	40,000
Dr. D. Walker Vivitro Systems Inc. Victoria	"VBASE" - A Flow Performance Database for Prosthetic Heart Valves	39,900
	HDF-SCBC #3 (HDF-3) Total $ Committed 1991-92 (13 Projects)	770,615

SCIENCE COUNCIL OF B.C. -
B.C. HEALTH RESEARCH FOUNDATION

Schedule of Health Development Fund (HDF-JOINT) Commitments for the year ended March 31, 1992

1. HEALTH DEVELOPMENT FUND (HDF-JOINT) COMPETITION #3 (HDFJ-3)

GRANT RECIPIENT & ORGANIZATION	PROJECT DESCRIPTION	TOTAL $ COMMITTED 1991-92
Dr. G.E. Birch Neil Squire Foundation North Vancouver	Impact of Robotic Assistive Appliances in Vocational Workstation Environments	63,122
Mr. D. Cooper Sunny Hill Hospital for Children Vancouver	Computerized Optronics Controller for Independent Use of Wheelchair and Communication Aids by Children with Physical Disabilities	30,000
Dr. P. Coy Victoria Clinic Victoria	Lung Cancer Economic Evaluation Study Data Analysis	36,273
Mr. F. Dillon J.A. Pentland Ltd. Vancouver	A Co-operative Study on the Cost Effectiveness and Efficiency of Using CAD/CAM Technology for the Design and Manufacture of Spinal Orthoses	39,621
Dr. C. Duncan UBC, Orthopaedics	Antibiotic Loaded Knee Joint Prosthesis for the Management of Infection	72,472
Dr. W. Godolphin Andronic Devices Ltd. Richmond	A Clinical Laboratory Workflow Simulation and Optimization System	22,500
Mr. R. Hannah Arbutus Society for Children Victoria	Evaluation of Computer Aided Design and Manufacturing Techniques (CAD/CAM) for Use in Special Seating	87,050
Dr. H. Litherland Vancouver General Hospital Vancouver	Clinical Benefit and Cost Analysis of Vascular Surgery in a Large Hospital	5,000
Dr. D. Lyster UBC, Pharmaceutical Sciences	In Vivo Assessment of Brain Tumours	73,021
Ms. L. Roxborough Sunny Hill Hospital for Children Vancouver	Development of a Quantitative Measure of Seated Postural Control in Children	66,150
	HDF-JOINT #3 (HDFJ-3) Total $ Committed 1991-92 (10 Projects)	495,209

Note: The above listing reflects the reductions-in-commitment that occurred subsequent to March 31, 1992, hence the figures cited differ from those listed on the financial statements.

RECYCLING RESEARCH DEMONSTRATION AND DEVELOPMENT R_2 D_2 (RD-2)

GRANT RECIPIENT & ORGANIZATION	PROJECT DESCRIPTION	TOTAL $ COMMITTED 1991-92
Mr. P. Harco Hal Industries Inc. Surrey	Recycled Rubber as a Major Component in Membranes Used in Roofing and Waterproofing	220,000
Dr. D.J. Jones Jones Environmental Sciences Inc. Vancouver	An Evaluation of Tire Cutting by the Waterjet Cutting System	30,000
Mr. K. Martin Extrud-A-Rail Inc. Vernon	Recycled Rubber Extrusions	150,000
Mr. B. Patterson Okanagan Valley Stone Kelowna	Trowel-in-place Crumb Rubber	100,000
Mr. J.D. Ferris Moore Roof Systems Squamish	Mooroof, Roofing Shingles Cut from Used Tires	40,000
Mr. I. Muirhead* WRP Recycling Technologies Inc. New Westminster	Development of Improved Porous Irrigation Pipe Manufactured from Scrap Tires	200,000
Mr. R. Robillard* Accurate Rubber Products Ltd. Richmond		
*Joint project	Total (6 projects)	740,000

SCIENCE COUNCIL OF
BRITISH COLUMBIA

FINANCIAL STATEMENTS

FOR THE YEAR ENDED
MARCH 31, 1992

AUDITOR'S REPORT

To the Minister of Advanced Education, Training and Technology

We have audited the balance sheet of the Science Council of British Columbia as at March 31, 1992 and the statements of Program receipts, expenditures and appropriations; SPARK receipts, expenditures and appropriations; operations receipts, expenditures and appropriations; and changes in financial position for the year then ended. These financial statements are the responsibility of the Council's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Council as at March 31, 1992 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles, as modified by Note 2 to the financial statements.

Dyke & Howard

Vancouver, B.C.
May 28, 1992

Chartered Accountants

BALANCE SHEET
AS AT MARCH 31, 1992

ASSETS

	1992	1991
CASH	$ 6,776,692	$ 1,768,712
SHORT-TERM INVESTMENTS	14,670,253	18,553,714
ACCOUNTS RECEIVABLE	164,759	170,200
GRANTS RECEIVABLE	1,340,000	1,813,344
INTEREST RECEIVABLE	124,803	229,800
	$23,076,507	$22,535,770

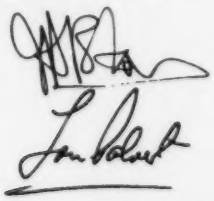
LIABILITIES

ACCOUNTS PAYABLE AND ACCRUED LIABILITIES	$ 413,779	$ 370,560

APPROPRIATIONS

PROGRAMS (Note 3)	22,110,023	21,986,669
STRATEGIC PLANNING FOR APPLIED RESEARCH AND KNOWLEDGE (SPARK) (Note 5)	187,068	41,657
OPERATIONS	365,637	136,884
	$23,076,507	$ 22,535,770

Approved by the Council



STATEMENT OF PROGRAM RECEIPTS, EXPENDITURES AND APPROPRIATIONS
YEAR ENDED MARCH 31, 1992

	1992	1991
PROGRAM RECEIPTS		
Grants from the Province of British Columbia (Schedule 1)	$16,920,684	$15,555,408
Contribution from the British Columbia Health Research Foundation	404,678	133,622
Interest	1,578,057	2,056,649
Refunds of prior years' program expenditures	189,446	153,164
Other	37,223	11,600
	19,130,088	17,910,443
PROGRAM EXPENDITURES (Schedule 2)	17,856,434	14,750,163
TRANSFER TO OPERATIONS	850,300	331,000
TRANSFER TO SPARK	300,000	500,000
	19,006,734	15,581,163
EXCESS OF RECEIPTS OVER EXPENDITURES	123,354	2,329,280
PROGRAM APPROPRIATIONS, beginning of year	21,986,669	19,657,389
PROGRAM APPROPRIATIONS, end of year	$22,110,023	$21,986,669

STATEMENT OF SPARK RECEIPTS EXPENDITURES AND APPROPRIATIONS YEAR ENDED MARCH 31, 1992

	1992	1991
SPARK RECEIPTS		
Grants from the Province of British Columbia	$ 500,000	$ 30,000
Grants from the Government of Canada	200,000	212,173
Transfer from Program	300,000	500,000
Program grant - Special Initiatives Fund	-	300,000
Other receipts	171,889	183,740
	1,171,889	1,225,913
SPARK EXPENDITURES		
Operations		
Communications and travel	72,762	86,374
Co-ordinator fees	-	49,000
Furniture and equipment	17,264	12,595
Office	33,959	44,367
Professional fees	91,169	-
Rent and leasehold improvements	30,000	18,047
Salaries and benefits	101,548	78,674
Workshops and forums	57,267	121,507
	403,969	410,564
Sectors		
Advanced materials	8,343	-
Agriculture	-	4,500
Aquatic resources	35,114	45,000
Biotechnology	162	89,078
Construction	13,923	48,761
Energy	73,660	10,004
Environment	53,836	117,545
Fiscal	2,043	38,673
Forestry	-	499
Health	180,186	68,124
Human resources	8,078	-
Information technology	109,494	172,311
Manufacturing	72,207	114,757
Mining	55,588	68,999
Oceans	3,413	-
Transportation	6,462	43,926
	622,509	822,177
TOTAL EXPENDITURES	1,026,478	1,232,741
EXCESS (DEFICIENCY) OF RECEIPTS OVER EXPENDITURES	145,411	(6,828)
SPARK APPROPRIATIONS, beginning of year	41,657	48,485
SPARK APPROPRIATIONS, end of year	$ 187,068	$ 41,657

STATEMENT OF OPERATIONS RECEIPTS, EXPENDITURES AND APPROPRIATIONS YEAR ENDED MARCH 31, 1992

	1992	1991
OPERATIONS RECEIPTS		
Grant from the Province of British Columbia	$ 900,000	$ 900,000
Interest	43,376	15,535
Transfer from Program	850,300	331,000
Recoveries		
British Columbia Health Research Foundation (Note 6)	-	392,030
Other	64,773	38,286
	1,858,449	1,676,851
EXPENDITURES		
Computer services	7,711	9,290
Consulting and temporary staff	55,741	59,627
Dues and memberships	3,658	3,931
Furniture and equipment	62,072	149,256
Leasehold improvements	4,632	5,320
Meetings	21,060	30,848
Moving expenses	-	23,952
Personnel - recruitment	2,660	5,397
Photocopying and printing	53,956	43,960
Postage and courier	36,719	61,448
Professional development	8,887	8,802
Professional fees	21,616	21,578
Publications	4,795	3,961
Public relations	-	14,982
Rent	280,102	68,711
Salaries and employee benefits	953,072	981,237
Stationery and supplies	19,465	32,593
Telephone	18,064	29,560
Travel	75,486	70,847
	1,629,696	1,625,300
EXCESS OF RECEIPTS OVER EXPENDITURES	228,753	51,551
OPERATIONS APPROPRIATIONS, beginning of year	136,884	85,333
OPERATIONS APPROPRIATIONS, end of year	$ 365,637	$ 136,884

STATEMENT OF CHANGES IN FINANCIAL POSITION
YEAR ENDED MARCH 31, 1992

	1992	1991
CASH PROVIDED FOR (USED BY) OPERATING ACTIVITIES		
Excess (deficiency) of receipts over disbursements		
Program	$ 123,354	$ 2,329,280
SPARK	145,411	(6,828)
Operations	228,753	51,551
Net change in non-cash working capital accounts	627,001	9,117,243
INCREASE IN CASH DURING THE YEAR	1,124,519	11,491,246
CASH AND SHORT-TERM INVESTMENTS, beginning of year	20,322,426	8,831,180
CASH AND SHORT-TERM INVESTMENTS, end of year	$ 21,446,945	$ 20,322,426

SCHEDULE OF PROGRAM GRANTS FROM THE PROVINCE OF BRITISH COLUMBIA YEAR ENDED MARCH 31, 1992

	1992	1991
GRANTS FROM THE PROVINCE OF BRITISH COLUMBIA		
Ministry of Advanced Education, Training and Technology		
- HDF	$ -	$ 1,472,549
- Hydrogen Alliance	492,000	-
- Program Base	3,500,000	4,000,000
- Regional S & T Councils	340,000	-
- Science & Technology Fund Event	20,000	-
- Science Fair Winners	57,684	-
- Technology B.C. / STDF	10,000,000	8,155,359
- TEST	500,000	-
- Wastewater Technology	11,000	-
	14,920,684	13,627,908
Ministry of Environment		
- R2D2	1,000,000	-
- Sustainable Development Fund	1,000,000	-
- University Centres of Excellence	-	1,927,500
	2,000,000	1,927,500
	$16,920,684	$15,555,408

SCHEDULE OF COMMITMENTS AND DISBURSEMENTS OF SCIENCE COUNCIL PROGRAM GRANTS YEAR ENDED MARCH 31, 1992

	Known Outstanding Commitments Beginning of Year	Additional Commitments During Year	Commitments Reductions During Year	Disbursed During Year	Known Outstanding Commitments End of Year
AGAR					
Research Competition #13	$ 32,622	$ -	$ 2,140	$ 30,482	$ -
Research Competition #16	8,199	-	-	8,199	-
Research Competition #17	24,070	-	12,224	11,846	-
Research Competition #18	4,500	-	-	4,500	-
Research Competition #19	134,640	-	17,770	105,020	11,850
Research Competition #20	317,034	-	49,944	231,302	35,788
	521,065	-	82,078	391,349	47,638
HEALTH DEVELOPMENT PROGRAMS					
HDF 1988/89 - SCBC	91,764	-	20,986	70,778	-
HDF 1989/90 - SCBC	769,255	-	151,014	331,232	287,009
HDF 1990/91 - SCBC	-	770,615	-	239,713	530,902
HDF 1988/89 - JOINT	282,070	-	20,738	258,723	2,609
HDF 1989/90 - JOINT	704,611	-	-	543,696	160,915
HDF 1990/91 - JOINT	-	556,013	60,804	25,625	469,584
	1,847,700	1,326,628	253,542	1,469,767	1,451,019
HUMAN RESOURCE PROGRAMS					
Wm Armstrong Award 91/92	-	2,000	-	2,000	-
GREAT (GC 11)	-	1,439,024	97,334	1,168,548	173,142
IPDF	156,250	400,000	50,000	331,250	175,000
MART 1988/89	15,825	-	5,392	10,433	-
MART 1989/90	76,650	-	9,835	66,815	-
MART 1990/91	347,840	-	29,123	253,679	65,038
MART 1991/92	-	760,773	11,458	368,834	380,481
STARS - SC 4	-	100,000	-	100,000	-
TEST 1989/90	414,645	-	82,489	292,748	39,408
TEST 1991/92	-	212,356	32,760	39,112	140,484
	1,011,210	2,914,153	318,391	2,633,419	973,553
SCIENCE & TECHNOLOGY PROGRAMS					
MOE Sustainable Development	-	1,000,000	-	-	1,000,000
MOE Centres of Excellence	-	1,900,000	-	936,674	963,326
R2D2 1991/92	-	740,000	-	103,000	637,000
STDF 1988/89	3,540	100	-	3,640	-
SA - 1	3,068,556	1,000	624,387	2,445,169	-
SA - 2	2,207,842	-	162,541	1,595,357	449,944
SA - 3	6,513,781	23,800	654,907	3,704,040	2,178,634
Tech B.C. 1	-	5,830,958	27,037	2,279,786	3,524,135
Tech B.C. 2	-	5,781,803	200,056	381,240	5,200,507
	11,793,719	15,277,661	1,668,928	11,448,906	13,953,546
TOTAL - PAGE 1	$15,173,694	$19,518,442	$2,322,939	$15,943,441	$16,425,756

SCHEDULE OF COMMITMENTS AND DISBURSEMENTS OF SCIENCE COUNCIL PROGRAM GRANTS
YEAR ENDED MARCH 31, 1992

Schedule 2 (cont'd)

	Known Outstanding Commitments Beginning of Year	Additional Commitments During Year	Commitments Reductions During Year	Disbursed During Year	Known Outstanding Commitments End of Year
CARRIED FORWARD	$15,173,694	$19,518,442	$ 2,322,939	$15,943,441	$16,425,756
SPECIAL PROJECTS / SPECIAL REQUESTS					
Client Needs Survey - Incremental	-	5,000	-	1,011	3,989
Council Liability - Opinion	-	1,235	-	1,235	-
Intellectual Property Seminar	6,416	-	6,416	-	-
Marketing & Mgmt. Skills Workshop	3,108	-	-	-	3,108
Marketing Study	16,878	-	-	13,616	3,262
National Forum - PACST	-	2,223	-	2,223	-
Regions - Kamloops	-	10,000	-	9,000	1,000
Regions - Kelowna	-	10,000	-	9,000	1,000
Peace Region Enterprise Development Centre	1,000	-	-	-	1,000
Quality Assurance	14,000	-	10,000	4,000	-
S & T Fund Event	-	20,000	-	19,270	730
Seattle Visit	-	14,617	-	14,617	-
Small Initiatives Fund	-	19,550	-	19,550	-
Technology Map of B.C.	-	5,000	-	3,000	2,000
UBC Electric Car	-	10,000	-	9,000	1,000
University Construction Chair	5,000	253	-	5,253	-
Vancouver Island Technology Centre	27,000	45,000	-	36,000	36,000
VITRA	1,500	-	1,500	-	-
Women in Science	2,113	5,000	-	5,000	2,113
	77,015	147,878	17,916	151,775	55,202
SPECIAL INITIATIVES FUND	1,229,372	212,250	-	633,776	807,846
SCIENCE AWARENESS PROGRAMS					
Arts, Science & Technology Centre - Regional Science Fairs 1990	500	-	500	-	-
BCSTA / FISA Book Prize 1991	10,000	2,500	2,865	9,635	-
BCSTA / FISA Book Prize 1992	-	12,865	-	8,972	3,893
Communication & Education	-	153,925	-	153,925	-
Public Awareness Fund	84,412	15,750	-	56,674	43,488
Science & Engineeriig Awards	-	54,941	-	54,941	-
Science Education Initiatives	20,000	-	-	20,000	-
Science Students Recognition	-	54,984	-	36,375	18,609
Science School Fairs	4,000	25,000	-	4,000	25,000
	118,912	319,965	3,365	344,522	90,990
OTHER EXPENDITURES					
Hydrogen Alliance	-	492,000	-	462,261	29,739
Regional S & T Councils	-	340,000	-	-	340,000
Wastewater Management	-	46,000	-	46,000	-
University Industry Chairs	-	500,000	-	-	500,000
Honoraria & Evaluation Expenses	-	103,127	-	103,127	-
Program Audits	-	35,495	-	5,495	30,000
Program Development	-	31,000	-	10,509	20,491
Program Evaluations	-	54,504	-	54,504	-
Program Promotions	-	101,025	-	101,025	-
	-	1,703,151	-	782,921	920,230
	$16,598,993	$21,901,686	$2,344,220	$17,856,435	$18,300,024

NOTES TO THE FINANCIAL STATEMENTS
MARCH 31, 1992

1. ORGANIZATION

The Science Council of British Columbia was established in June 1978 under the Science Council of British Columbia Act. In 1989, the Science Council of British Columbia and the Secretariat on Science, Research and Development were amalgamated pursuant to the Science Council Act, Chapter 77, and continued as the Science Council of British Columbia ("Science Council").

The primary objective of Science Council is to encourage the development and application of advanced technology to support economic development in the Province including the implementation, administration and funding of programs and the organization and management of projects and initiatives.

2. ACCOUNTING POLICIES

Basis of Accounting for Receipts, Expenditures and Appropriations

Grant receipts are accounted for in the year the respective grant agreement becomes effective.

Full provision is made for all accrued liabilities except that outstanding Program commitments, which are conditional on receipt of satisfactory progress reports, are not recorded until disbursed.

Appropriations are comprised of grant receipts (net of transfers and disbursements), and any interest earned thereon, that are designated for expenditure under the programs specified in the grant agreement.

Short-Term Investments

Short-term investments are recorded at the lower of cost and market value.

Capital Assets

Capital Assets are not capitalized and depreciated, but are recorded as expenditures in the period they are purchased.

3. PROGRAM APPROPRIATIONS

As at March 31, 1992 Program appropriations amounted to $22,110,023 (1991 - $21,986,669), of which $18,300,024 (1991 - $16,598,993) has been committed for expenditure for specifically identifiable projects and awards. The remaining balance of the Program appropriations amount is to be committed for expenditure throughout the remaining terms of the programs as per the funding contracts with the Province of British Columbia.

4. PROGRAM COMMITMENTS

During the year, the Science Council approved and committed to fund programs (as outlined in Schedule 2), totalling $21,901,686 (1991 - $15,662,099). At March 31, 1992, known outstanding commitments totalled $18,300,024 (1991 - $16,598,993)

Health Development Fund (HDF)

Since 1988 the HDF program has provided funding for projects in the following areas:

a) health technology development for commercial products. This program (HDF - SCBC) is administered solely by Science Council.

b) health technology assessment. This program (HDF - Joint) is administered jointly by the Science Council and the British Columbia Health Research Foundation.

HDF funding from the Province of British Columbia was discontinued after March 31, 1991. The Science Council and the British Columbia Health Research Foundation are seeking approval to use the remaining balance of HDF uncommitted funds to continue the program during the ensuing year.

Market Assessment of Research and Technology (MART)

The MART program is designed to encourage the analysis of market needs in the development of new science and technology based products.

During the year funding for the MART program was supplemented by $ 250,000 from prior years' program funds that were uncommitted as at March 31, 1991.

Environmental Research

a) Recycling Research, Development and Demonstration (R2D2)

The Science Council has been contracted by the Ministry of Environment to administer the R2D2 program. R2D2 is a sub-component of the Province's Financial Incentives for the Reuse of Scrap Tires (FIRST) Program and is designed to fund projects aimed at developing commercial uses for scrap tires. During the

year Science Council received $ 1,000,000 to support this program and approved and committed to fund projects totalling $ 740,000. The remaining funds will be carried forward to support new projects during the ensuing year.

b) MOE Centres of Excellence

The Science Council has been contracted by the Ministry of Environment to administer the University Centres of Excellence awards. This program is designed to support environmental research projects, including waste management and aquatic resource research projects at Simon Fraser University, the University of British Columbia and the University of Victoria.

c) Sustainable Development Funds

The Science Council has been contracted by the Ministry of Advanced Education, Training and Technology and the Ministry of Environment to administer funds to support projects in the field of sustainable development. During the year $ 1,000,000 was received and appropriated by Science Council towards funding research projects under the program.

Special Initiatives Fund

The Special Initiatives Fund was created during the year ended March 31, 1990 as a one-time only program designed to support science and technology related projects which do not qualify for funding under other existing programs administered by Science Council.

Hydrogen Alliance

The Science Council has been contracted by the Ministry of Advanced Education, Training and Technology to administer the funding for the initial start-up of the Agency for Hydrogen Systems. The agency is to manage current and future hydrogen projects on behalf of the Province of British Columbia and is independent of the Science Council.

During the year the Science Council received and committed for expenditure $ 492,000 in respect of the Hydrogen Alliance program.

Regional S & T Councils

The Science Council has been contracted by the Ministry of Advanced Education, Training and Technology to administer funding to support the operation of the Regional Science, Technology and Innovation Councils during the year ending March 31, 1993. The mission of the Regional councils is to foster, in all areas of British Columbia, a culture which values science, technology, innovation and entrepreneurship in order to maintain industry competitiveness and a high standard of living.

During the year the Science Council received and committed for expenditure $ 340,000 in respect of the Regional S & T Councils program.

5. STRATEGIC PLANNING FOR APPLIED RESEARCH AND KNOWLEDGE (SPARK)

The objective of SPARK is to develop networks to identify opportunities for the application of research and development in various industries throughout the Province of British Columbia. SPARK is funded by grants from the Province of British Columbia, the Government of Canada and fees derived from workshops and forums. During the year the Province of British Columbia provided SPARK funding in the amount of $ 500,000 and the Science Council transferred $ 300,000 (1991 - $500,000) to SPARK from the Program Base budget.

6. RECOVERIES FROM BRITISH COLUMBIA HEALTH RESEARCH FOUNDATION (BCHRF)

Effective April 1, 1992 the BCHRF operations expenditures are no longer included in the operating accounts of the Science Council. BCHRF operation expenditures paid by the Science Council are netted directly against the related recoveries from BCHRF.

7. LEASE COMMITMENTS

The Science Council is committed to lease office premises until March 31, 1998 at a base monthly rental of approximately $ 17,400. During the year ended March 31, 1992 the Science Council entered into an agreement to sublease office space until March 31, 1998 at a base monthly rental of approximately $ 5,600.